LOUDOUN COUNTY
TRANSIT DEVELOPMENT PLAN:
FISCAL YEARS 2012-2017

June 2011

(Proposed Final)

Prepared by:

CTG Connetics Transportation Group

Under Sub-Contract to:

ATKINS

Under Contract to:

DRPT
Virginia Department of Rail and Public Transportation

TABLE OF CONTENTS

TABLE OF CONTENTS i

1.0 OVERVIEW OF LOUDOUN COUNTY, VA TRANSIT SERVICES 1-1

1.1 Transit Background/History 1-1
1.2 Organizational and Governance Structure 1-1
1.3 Transit Services Provided and Areas Served 1-3

1.3.1 Commuter Routes 1-3

1.3.2 Local Routes 1-11

1.3.3 Paratransit Services 1-15

1.4 Fare Structure 1-15
1.5 Vehicle Fleet 1-16
1.6 Facilities 1-17

1.6.1 Commuter Bus Maintenance Facility 1-17

1.6.2 Local Bus and Paratransit Maintenance Facility 1-18

1.6.3 Park and Ride Lots 1-18

1.7 Transit Security Program 1-18
1.8 Public Outreach 1-18

2.0 GOALS, STRATEGIES, POLICIES AND STANDARDS 2-1

2.1 2010 CTP Goals and Strategies 2-1
2.2 Transit-Related Policies 2-2
2.3 Performance Standards 2-5

3.0 SERVICE AND SYSTEM EVALUATION 3-1

3.1 Existing and Historical Ridership Characteristics 3-1

3.1.1 Commuter Service 3-1

3.1.2 Park and Ride Lot Utilization 3-6

3.1.3 Local Fixed Route Service 3-7

3.1.4 Demand Response Service 3-9

3.2 Peer Agency Review 3-9

3.2.1 Peer Selection Process 3-9

3.2.2 Population Characteristics 3-10

3.2.3 Service Level Comparisons 3-13

3.2.4 Ridership Productivity 3-14

3.2.5 Cost Effectiveness 3-16

3.2.6 Peer Review Conclusions 3-18

3.3 Transit Market Analysis 3-18
3.3.1 Transit Rider Analysis 3-18
3.3.1.1 Commuter Bus Riders 3-19
3.3.1.2 Local Fixed Route Bus Riders 3-22
3.3.2 Captive Riders 3-24
3.3.3 Choice Riders 3-29
3.3.4 Origins of Loudoun Workers 3-31
3.3.5 Travel Markets 3-32
3.3.6 Travel Times 3-33
3.3.7 HOV and Toll Road Network 3-34
3.3.8 Parking 3-35
3.3.9 Land Use Patterns 3-35
3.3.10 Transit Market Analysis Conclusions 3-39
3.4 County Comprehensive Plan 3-40
3.4.1 Demographics 3-40
3.4.2 Economic Development 3-41
3.4.3 Land Use 3-41
3.6 Stakeholder and Public Outreach 3-44
3.7 ITS Projects and Programs 3-44
4.0 TRANSIT SERVICE AND FACILITY NEEDS ASSESSMENT 4-1
4.1 Loudoun County Transit Service Needs 4-1
4.1.1 D.C. Commuter Service Needs 4-4
4.1.2 Fairfax County Commuter/Express Service Needs 4-4
4.1.3 Local Service Needs 4-5
4.1.4 Intercounty Local Routes 4-5
4.1.5 Paratransit Service Needs 4-6
4.2 Transit Facilities and Equipment Needs 4-6
4.3 Transit Service and Equipment Needs Costs 4-6
5.0 SIX-YEAR TRANSIT SERVICE AND FACILITY PLAN 5-1
5.1 Transit Service Recommendations 5-1
5.1.1 Metrorail Improvements 5-1
5.1.2 Commuter/Express Bus Service Improvements 5-3
5.1.3 Local Bus Service Improvements 5-7
5.2 O&M Costs 5-11
5.3 Transit Capital and Facility Recommendations 5-13

5.3.1 Vehicle Recommendations 5-13
5.3.2 Maintenance Facility Recommendations 5-15
5.3.3 Park and Ride Lot Expansion Recommendations 5-15
6.0 CAPITAL IMPROVEMENTS PROGRAM 6-1
6.1 Vehicle Replacement and Expansion Program 6-1
6.2 Transit Maintenance and Operations Facility 6-2
6.3 Transit Center and Park and Ride Lot Facility Expansion 6-2
7.0 FINANCIAL PLAN 7-1
7.1 Existing LC Transit Commuter Costs and Funding Sources 7-1
7.1.1 Commuter Operations 7-1
7.1.2 Commuter Capital 7-2
7.2 Existing VRT Costs and Funding Sources 7-3
7.2.1 VRT Operations 7-3
7.2.2 VRT Capital 7-5
7.3 Future Funding Sources 7-6
7.3.1 Future Funding Assumptions 7-7
7.4 Operating and Capital Balance Sheets 7-9
7.4.1 LC Transit Commuter Operating 7-9
7.4.2 Local and ADA/Demand Response Operating 7-10
7.4.3 LC Transit Commuter Capital 7-13
7.4.4 Local and ADA/Demand Response Capital 7-14
7.5 Summary of County Transit Funding Requirements 7-15
8.0 TDP MONITORING AND EVALUATION 8-1
8.1 Coordination with Other Plans and Programs 8-1
8.2 Service Performance Monitoring 8-1
8.3 Replacement of Local Gasoline Tax Funds 8-1
8.4 Annual TDP Monitoring 8-2

Appendices

Appendix A – Transit Rider Survey Results
Appendix B – Commuter/Express Bus Service Plans by Fiscal Year
Appendix C – Local Bus Service Plans by Fiscal Year
Appendix D – Detailed Financial Plan Tables

1.0 OVERVIEW OF LOUDOUN COUNTY, VA TRANSIT SERVICES

Loudoun County is one of the most northern counties in the Commonwealth of Virginia and is part of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Area. The County's 2000 census population was 169,599. The U.S. Census Bureau estimated Loudoun County's 2009 population to be 301,171, a 77.6% increase over the nine-year period. Since the 1980s, Loudoun County's population and employment growth have changed the formerly rural county into one with a significant service economy. Employment densities are highest in the eastern part of the county along the Route 28 corridor, between Dulles Airport and Route 7. Loudoun County still retains a strong rural economy on the western side anchored by the equine industry, farming and wineries.

1.1 Transit Background/History

In the 1970s and early 1980s, a privately owned and operated commuter bus service called the Sterling Commuter Bus carried passengers between eastern Loudoun County and destinations in Washington, D.C. In 1993, the service encountered financial difficulties and in 1994 the County assumed responsibility for the operation. In FY 2002, Loudoun County's Office of Transportation Services (OTS) was established, incorporating some former components of the departments of Planning and General Services. Currently, OTS is responsible for matters relating to the County's intermodal transportation system, including road development, pedestrian and bicycle accommodations, traffic improvement implementation and transit and commuter services planning and management. The County plans and manages a commuter bus system called Loudoun County Transit, or LC Transit, that picks up passengers at park and ride lots within Loudoun and takes them to various destinations in the Washington metropolitan region such as West Falls Church Metrorail Station and Tysons Corner in Fairfax County, Rosslyn, Crystal City and the Pentagon in Arlington County, and numerous stops in the District of Columbia. This commuter bus service is operated by Veolia, a private transportation provider, under contract to the County. Buses are owned by the County, but stored, operated, and maintained by Veolia through their service contract.

In addition to commuter bus responsibilities, OTS staff also plan the coordinated system of local fixed route buses that is operated by Virginia Regional Transit (VRT), the state-designated rural provider for Loudoun County. This system currently has 12 routes, four of which are operated within the Town of Leesburg. The local bus system makes use of several "hub" locations that allow for transfers between two or more routes. The local bus system also provides a connection to the Fairfax Connector at Dranesville Road and the Washington Metropolitan Area Transit Authority (WMATA) Metro bus service at Dulles Airport.

VRT also operates the County's paratransit (demand response) service, available to eligible riders who wish to travel within three-quarters of a mile of a local fixed route. The paratransit program is fully compliant with the rules and regulations of the Americans with Disabilities Act (ADA).

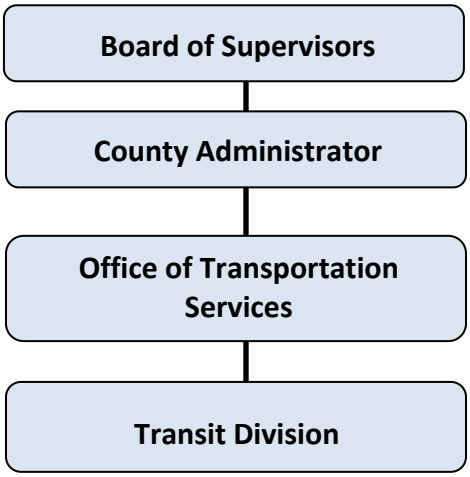
1.2 Organizational and Governance Structure

LC Transit is owned and operated by Loudoun County. Figure 1-1 illustrates an organizational chart for the commuter bus service. Funding decisions regarding LC Transit service are ultimately made by the

County Board of Supervisors. The planning, day-to-day oversight of operations and customer service functions are the responsibility of OTS.

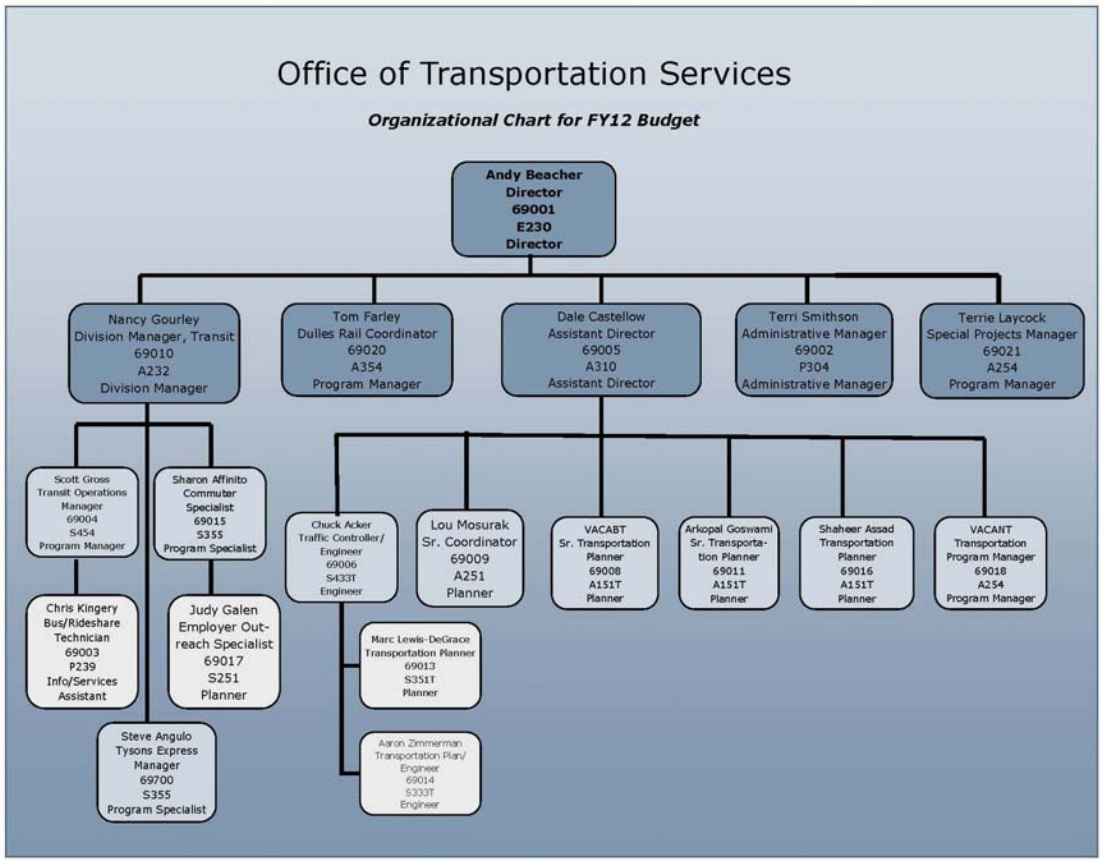
The Loudoun County Board of Supervisors has nine members. The Chairman is elected by the voters at large; the other supervisors are elected from each of eight county election districts. All nine members serve concurrent terms of four years. The current term of office began January 1, 2008 and will end on December 31, 2011. The Board appoints a County Administrator, who manages county operations; the Planning Commission, which serves in an advisory capacity on land use issues; and various other boards and commissions that provide recommendations to the Board of Supervisors to assist in its decision making. Currently, regular Board business meetings are held on the first and third Tuesdays of each month. The Board's monthly public hearings are held on the Monday following the first business meeting. Figure 1-1 illustrates the organizational relationship between the County Board of Supervisors and OTS.

Figure 1-1
Loudoun County Transit
Organizational Reporting Structure to the Board of Supervisors



As noted above, Transit is a division within OTS. The organizational structure and positions within OTS are reflected in Figure 1-2.

Figure 1-2



1.3 Transit Services Provided and Areas Served

As noted in Section 1.1, there are two transit operators providing service within Loudoun County:

- Loudoun County Office of Transportation Services (LC Transit commuter routes)
- Virginia Regional Transit (local fixed route and demand response)

The following sections provide a brief description of each transit service that is presently provided within Loudoun County.

1.3.1 Commuter Routes

The LC Transit commuter bus program provides transit services that can be categorized as follows:

- Routes between park and ride lots in Loudoun County and the Washington, D.C. metropolitan area central core (stop patterns vary by trip, but destinations include Rosslyn, the State Department, the Ronald Reagan Building, the Navy Yard Metro, the Pentagon, and Crystal City Metro.)
- Express service to West Falls Church Metro Station
- Reverse commute service from West Falls Church Metro Station to Loudoun
- Tysons Express and shuttle

- LINK (Ashburn Farm/Dulles North shuttle)

Currently, LC Transit serves 14 park and ride lots within Loudoun County as shown in Figure 1-3. Routing in the downtown D.C. area is shown in Figure 1-4. All commuter service operates on weekdays only.

Ashburn North/DC

This commuter service begins at the Ashburn North and Christian Fellowship Church park and ride lots (serving either one or both park and ride lots). There are seven inbound trips in the morning, of which some include a stop in Rosslyn. One of the seven trips goes to Crystal City and the other six trips go into Washington, D.C. and serve the State Department, K Street and 14th Street. There are five scheduled trips from Washington, D.C. to Christian Fellowship Church and/or Ashburn North in the afternoon peak period. One of these trips begins in Crystal City. The other trips begin in Washington, D.C. Select trips include a stop at the Dulles North Transit Center before continuing to Christian Fellowship Church and Ashburn North. One additional early afternoon trip is also scheduled on Fridays. There is also one shuttle trip from Dulles North to Christian Fellowship Church.

		Number of Trips		
Ashburn North/DC	Span of Service	AM Peak	Midday	PM Peak
Weekday	6:15 – 9:00 AM 4:30 – 7:00 PM	7	1 (Friday)	6

According to the schedule effective September 13, 2010
PM Peak trip count includes shuttle trip from Dulles North

Figure 1-3
Loudoun County Commuter Service Park and Ride Lots

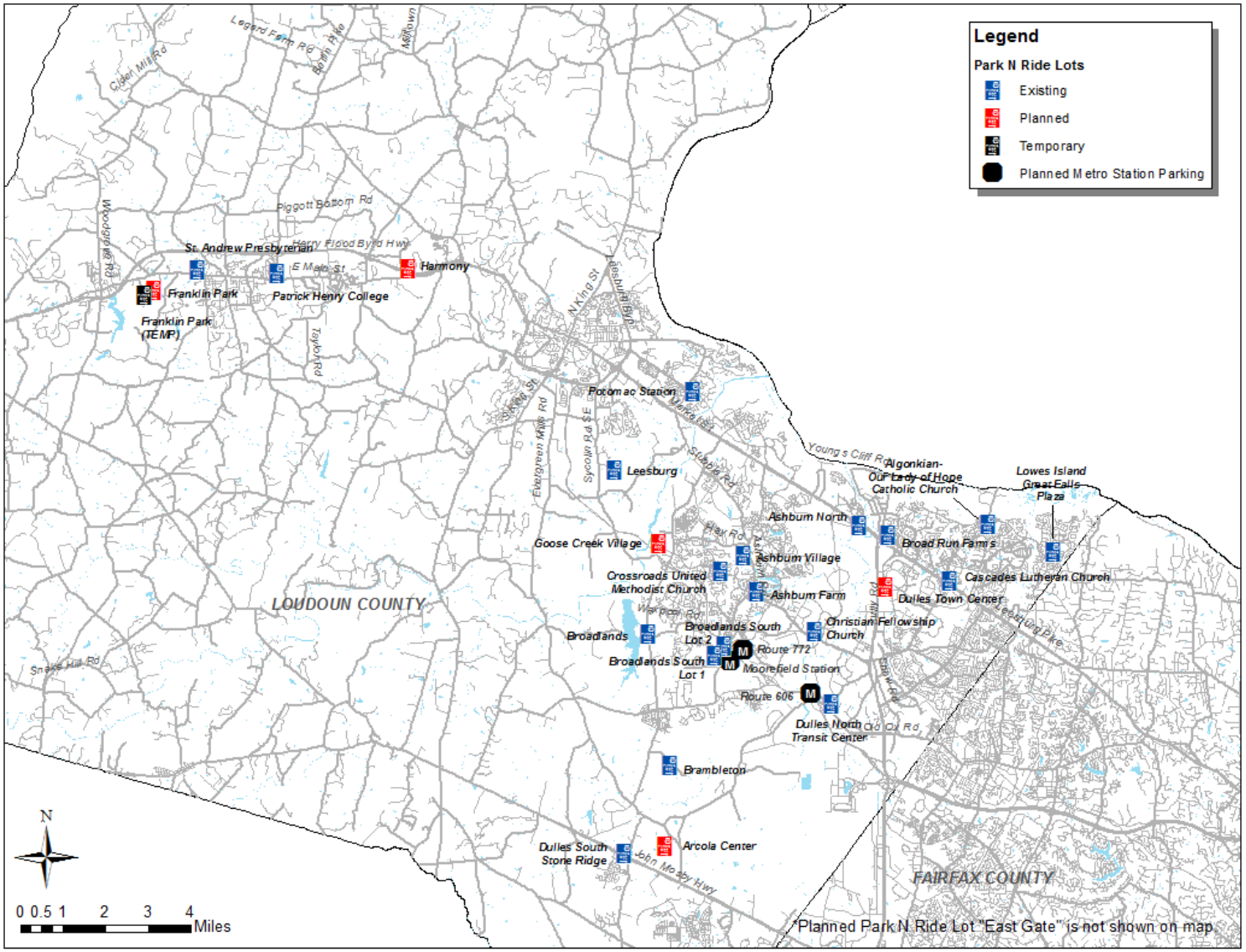


Figure 1-4
Loudoun County Commuter Service Routing in Downtown D.C. Area

Dulles North/DC

The Dulles North park and ride lot receives the highest level of commuter service. In the a.m., there are 23 trips that operate from Dulles North, of which 20 operate into the central Washington, D.C. area. Eleven of these 20 trips include a stop in Rosslyn. Some morning trips go to Crystal City and/or the Pentagon. The remaining trips go into Washington, D.C. and serve the State Department, K Street, 14th Street and Independence Avenue. Twelve of the 20 trips to D.C. began at another park and ride lot before stopping at Dulles North (i.e., Leesburg, Purcellville or Dulles South). The last three morning trips operate from Dulles North to West Falls Church Metro. In the afternoon, there are 26 scheduled trips from Washington, D.C., Monday through Thursday, and 25 scheduled trips on Friday (many of these trips continue from Dulles North to other park and ride lots). Some afternoon trips originate from the Crystal City /Pentagon area. Many of these trips include a stop in Rosslyn. There are also three trips in the p.m. peak period starting from West Falls Church Metro after 6:00 p.m. and one early afternoon return trip from Washington, D.C. that is scheduled Monday through Friday.

		Number of Trips		
Dulles North/DC	Span of Service	AM Peak	Midday	PM Peak
Weekday	5:20 – 10:00 AM 3:00 – 7:45 PM	23	1 (daily)	29/28

According to the schedule effective September 13, 2010
The "29/28" reflects Mon-Thur trips/Fri PM Peak trips
Trip counts in AM and PM Peak include trips to and from West Falls Church

Dulles South/DC

There are eight a.m. trips from Dulles South, of which five also stop at the Dulles North Transit Center. Two morning trips serve Crystal City. The remaining six trips go into Washington, D.C. and serve the State Department, K Street, 14th Street and Independence Avenue. Select trips also stop in Rosslyn. In the afternoon, there are nine p.m. trips to Dulles South. Seven of these nine trips include a stop at Dulles North before continuing on to Dulles South. Two of these trips originate from Crystal City. The other trips originate from Washington, D.C. One additional early afternoon return trip to Loudoun County is also scheduled on Fridays.

		Number of Trips		
Dulles South/DC	Span of Service	AM Peak	Midday	PM Peak
Weekday	5:20 – 9:30 AM 3:00 – 7:00 PM	8	1 (Friday)	7

According to the schedule effective September 13, 2010

Leesburg/DC

There are 21 a.m. trips that depart from the Leesburg park and ride lot, of which 18 operate to Washington, D.C. Eleven of the 18 trips to D.C. bypass Dulles North. Several trips stop in Rosslyn, and five trips serve the Pentagon. Trips that enter D.C. serve the State Department, K Street, 14th Street and Independence Avenue. The last three trips in the a.m. peak period operate from Leesburg to West Falls Church. In the afternoon peak period, there are 21 scheduled p.m. trips from Washington, D.C., Monday through Thursday, and 20 scheduled trips on Friday. Ten of these trips bypass Dulles North. Many of these trips stop in Rosslyn, and three trips come from the Pentagon. There are also three additional trips in the p.m. peak period that start from West Falls Church after 6:00 p.m. and one early afternoon trip from Washington, D.C. that is scheduled Monday through Friday.

		Number of Trips		
Leesburg/DC	Span of Service	AM Peak	Midday	PM Peak
Weekday	5:00 – 10:00 AM 3:15 – 8:00 PM	21	1 (daily)	24/23

According to the schedule effective September 13, 2010
The "24/23" reflects Mon-Thur trips/Fri PM Peak trips
Trip counts in AM and PM Peak include trips to and from West Falls Church

Purcellville/DC

There are 11 morning trips, of which two originate from Patrick Henry College, six originate from St. Andrew Presbyterian Church, and three originate from Franklin Park. Six trips bypass Dulles North and two trips bypass both Dulles North and Leesburg. Several of the trips stop in Rosslyn, with some trips stopping at the Pentagon before continuing to D.C. Service within D.C. includes stops at the State Department, K Street, 14th Street and Independence Avenue. For the afternoon rush hour, there are 19 outbound trips from Washington, D.C., Monday through Thursday, and 18 outbound trips on Friday. All trips stop at all three park and ride lots in Purcellville (Patrick Henry College, St. Andrew Presbyterian Church and Franklin Park). Some afternoon trips begin in Crystal City and at the Pentagon. There are another 3 trips that operate from the West Falls Church Station to Purcellville at the end of the p.m. peak period (after 6:00 p.m.). There is also one early afternoon return trip to Purcellville that is scheduled on Fridays.

		Number of Trips		
Purcellville/DC	Span of Service	AM Peak	Midday	PM Peak
Weekday	4:40 – 9:30 AM 3:30 – 8:30 PM	11	1 (Friday)	22/21

According to the schedule effective September 13, 2010
The "22/21" reflects Mon-Thur trips/Fri PM Peak trips
Trip counts in the PM Peak include trips from West Falls Church

Potomac Falls/West Falls Church Metro Station

Most morning trips begin at Broad Run Farms (Galilee Methodist Church) and serve the park and ride lots in the Cascades area (Community Lutheran Church) and Our Lady of Hope before terminating at the West Falls Church Metro station. Select trips also stop at Great Falls Plaza. All outbound trips serve every park and ride lot on the alignment. There is also one early afternoon return trip that is scheduled on Fridays.

		Number of Trips		
Potomac Falls/WFC	Span of Service	AM Peak	Midday	PM Peak
Weekday	5:00 – 9:00 AM 4:00 – 8:00 PM	8	1 (Friday)	8

According to the schedule effective September 13, 2010

West Falls Church (Reverse Commute to Loudoun County)

There are ten scheduled morning trips from the West Falls Church Metro station. Route patterns vary, and include service to Verizon, AOL, the Dulles North Transit Center, Russell Branch Parkway, Shaw Road & Terminal Drive, the Loudoun County Government Building and the Leesburg park and ride lot. There are seven afternoon trips to West Falls Church. There is also one early afternoon return trip to West Falls Church that is scheduled on Fridays.

		Number of Trips		
WFC/Loudoun	Span of Service	AM Peak	Midday	PM Peak
Weekday	6:00 – 9:00 AM 3:30 – 7:15 PM	10	1 (Friday)	7

According to the schedule effective September 13, 2010

Tysons Express

The Tysons Express service is being provided as a Dulles Metrorail construction mitigation measure. There are seven a.m. trips that start from the Leesburg park and ride and includes stops at Broadlands Market Place and the Broadlands park and ride lot. There are also seven return trips in the afternoon. Within Tysons, buses operate in a loop along Jones Branch Drive, West Park Drive, Tysons Boulevard, Galleria Drive, Fashion Boulevard, Leesburg Pike, Gallows Road and Greensboro Drive. Passengers can connect between the Tysons Express and the Tysons Express Shuttle in the West Park Transit Station.

		Number of Trips		
Tysons Express	Span of Service	AM Peak	Midday	PM Peak
Weekday	5:40 – 9:30 AM 3:30 – 7:50 PM	7	n/a	7

According to the schedule effective September 13, 2010

Tysons Express Shuttle

The first morning trip of this route starts at the Leesburg park and ride lot and includes stops at Broadlands Marketplace and Broadlands park and ride lot. Once reaching Tysons Corner, this route operates as a shuttle between West Park Transit Station and employer campuses east of I-495. Thus, riders of the Tysons Express service that wish to travel to employer worksites east of I-495 can transfer to this shuttle service at the West Park Transit Station. Afternoon routing is similar. This bus begins service as a shuttle between the office complexes east of I-495 and the West Park Transit station. The last trip of the afternoon peak then continues west to Leesburg.

		Number of Trips		
Tysons Shuttle	Span of Service	AM Peak	Midday	PM Peak
Weekday	6:00 – 9:15 AM 3:30 – 6:45 PM	5	1 (summer)	5

According to the schedule effective September 13, 2010

LINK

The LINK shuttle service is a service that is intended to relieve parking constraints at Dulles North by providing shuttle service to remote parking lots in the Ashburn Farm area. The shuttle makes two stops along Ashburn Farm Parkway (the Parkhurst Plaza shopping center at Summerwood Circle and the Crossroads United Methodist Church at Crossroads Drive) and one additional stop at Claiborne Parkway & Belgreen Drive. Buses then travel along the Dulles Greenway to Dulles North.

		Number of Trips		
LINK	Span of Service	AM Peak	Midday	PM Peak
Weekday	5:00 – 9:00 AM 4:00 –8:00 PM	Every 15 min.	n/a	Every 15 min.

Table 1-1 summarizes the number of daily bus trips that serve each park and ride lot in Loudoun County.

Table 1-1
Summary of Commuter Service Levels at Park and Ride Lots

Park and Ride Lot	AM Period # Trips	AM Period Route Pattern	PM Period # Trips	PM Period Route Pattern
Ashburn North	5	To Central D.C.	4/5*	From Central D.C.
	8	To West Falls Church	9	From West Falls Church
Broadlands Market Place	8	To Tysons	8	From Tysons
Broadlands	8	To Tysons	8	From Tysons
Cascades	8	To West Falls Church	8/9*	From West Falls Church
Christian Fellowship Church	4	To Central D.C.	5/6*	From Central D.C.
			1	Dulles North
Dulles North	20	To Central D.C.	27/26*	From Central D.C.
	3	To West Falls Church	3	From West Falls Church
	6	From West Falls Church	4	To West Falls Church
	17	From LINK pnr lots	15	To LINK pnr lots
Dulles South	8	To Central D.C.	9/10*	From Central D.C.
Galilee Methodist Church	6	To West Falls Church	8/9*	From West Falls Church
Great Falls Plaza	3	To West Falls Church	8/9*	From West Falls Church
Leesburg	18	To Central D.C.	19/18	From Central D.C.
	3	To West Falls Church	3	From West Falls Church
	8	To Tysons	8	From Tysons
	2	From West Falls Church	1	To West Falls Church
Our Lady of Hope Church	5	To West Falls Church	8/9*	From West Falls Church
Patrick Henry College	2	To Central D.C.	19	From Central D.C.
			3	From West Falls Church
St. Andrew Presbyterian Church	6	To Central D.C.	19	From Central D.C.
			3	From West Falls Church
Franklin Park	3	To Central D.C.	19	From Central D.C.
			3	From West Falls Church

Notes:

** Trip numbers such as "8/9" reflect Mon-Thur/Fri trips.*

P.M. trips include any early afternoon return trips.

1.3.2 Local Routes

Virginia Regional Transit (VRT) provides fixed route bus transportation in Purcellville, Leesburg, Sterling/Countryside, Ashburn Village and Ashburn Farm. Bus service is also operated from Dulles Town Center. The fixed route service is designed to include route-to-route transfer opportunities at hub locations in Leesburg, Ashburn and Dulles Town Center, and at Inova Loudoun Hospital. Connections are also provided to other regional buses (the Fairfax Connector and Metrobus Route 5A).

Following are descriptions of VRT local routes in Loudoun County. Figure 1-5 illustrates local route alignments.

7 to 7 on 7

This route operates weekdays from 7:00 AM until 7:30 PM along Route 7 between the Loudoun County Government Center in Leesburg and Town Center Plaza near the Fairfax County Line. Transfers to the Fairfax Connector bus service are possible at Town Center Plaza at Dranesville Road. Major stops include Ft. Evans Road, Riverside Parkway, Inova Loudoun Hospital, George Washington University, Dulles Town Center, Ridgetop Circle, NOVA Campus, Cascades and Town Center Plaza.

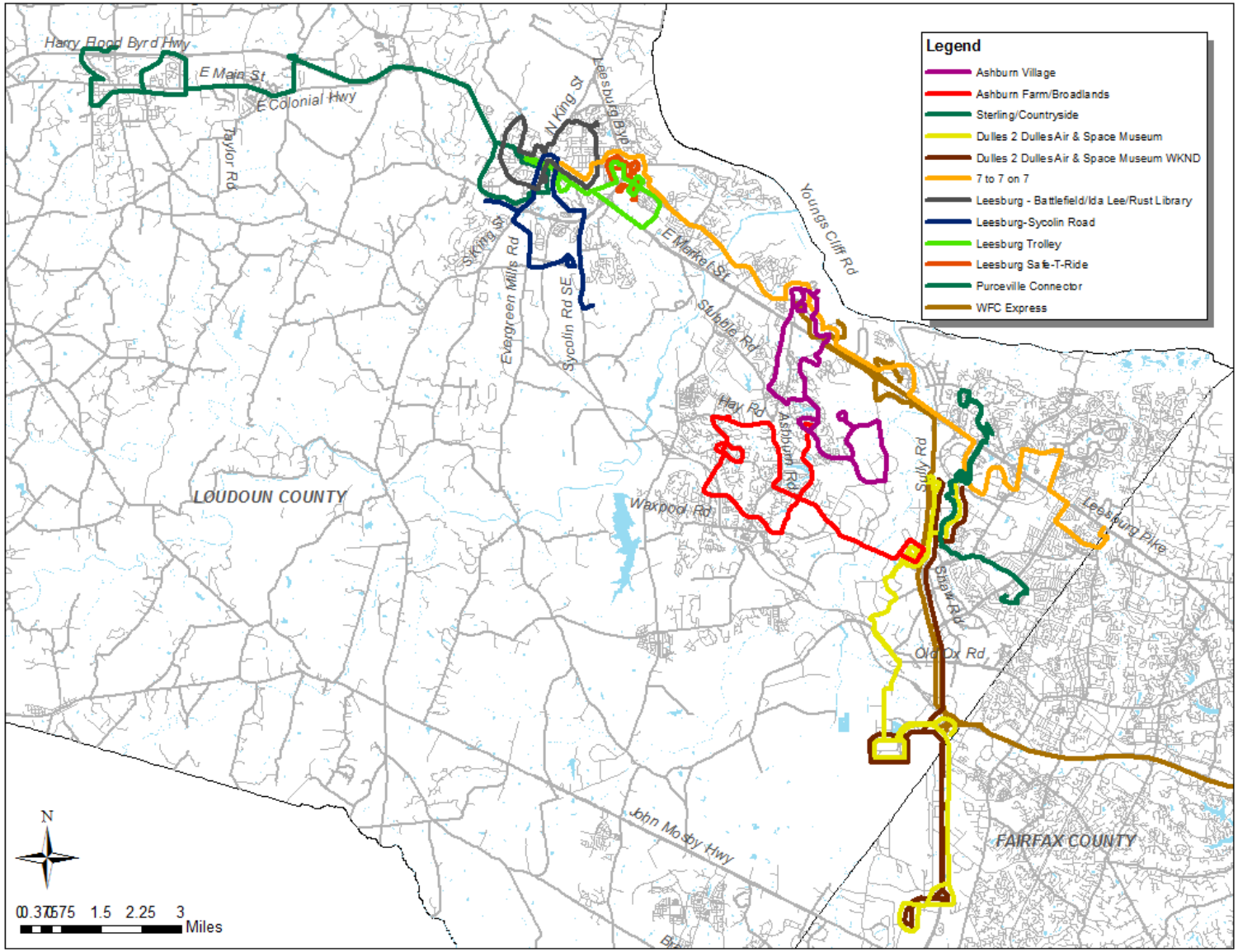
		Avg. Frequency (minutes)		
7 to 7 on 7	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM – 7:30 PM	30	30	n/a

Ashburn Farm/Broadlands

Beginning at Wegmans on Pacific Boulevard, this route generally follows Waxpool Road, Ashburn Village Boulevard, Broadlands Boulevard, Claiborne Parkway, Hay Road, Ashburn Road, Farmwell Road and Ashburn Village Boulevard to the Ashburn Village Giant at Gloucester Parkway. This route then returns to Wegmans via Ashburn Village Boulevard and Waxpool Road. Stops include Ashburn Corporate Park, Ice Rink Plaza, Farmwell Plaza, Broadlands Plaza, Professional Plaza, Timber Ridge Apartments, Junction Plaza, Stone Bridge High School, Ashburn Library and Parkhurst Plaza. Service is provided hourly on weekdays only.

		Avg. Frequency (minutes)		
Ashburn Farm	Span of Service	Peak	Midday	Evening
Weekday	7:10 AM – 7:10 PM	60	60	n/a

Figure 1-5
Local Routes in Loudoun County



Ashburn Village

This route is anchored at the Ashburn Village Giant. Service is provided both north and south of the Ashburn Village Giant. The south portion of the route uses Gloucester Parkway, Marblehead Drive and Loudoun County Parkway to serve Potomac Green, One Loudoun, Ashby Ponds and Wingler House before returning to the Ashburn Village Giant. The north portion of the route makes a loop via Ashburn Village Boulevard, Riverside Parkway, Deerfield Avenue, Claiborne Parkway and Gloucester Parkway, and includes stops at Ashbrook Commons, Janelia Farm, Prison Fellowship, Inova Loudoun Hospital, Leisure World, Walgreens, Fincastle and the Ashburn Sports Pavilion. Service is provided hourly on weekdays only.

		Avg. Frequency (minutes)		
Ashburn Village	Span of Service	Peak	Midday	Evening
Weekday	7:25 AM – 7:15 PM	60	60	n/a

Dulles 2 Dulles Air & Space Museum

This route connects the Dulles Town Center with Washington-Dulles International Airport and the Udvar Hazy Center - Air and Space Museum in Fairfax County. On weekdays the alignment generally uses Atlantic Boulevard, Pacific Boulevard, Moran Road, Old Ox Road and Ariane Way into Dulles International Airport. It then follows Sully Road (Route 28) to the Udvar Hazy Center. Stops along the way include Dulles Town Center, Dulles Crossing, Orbital, Wegmans, AOL, the Dulles North Transit Center and Dulles International Airport. Morning trips and the last afternoon trip do not serve the Air and Space Museum. This route also operates on Saturdays and Sundays, but via a more direct alignment between Dulles Town Center, the Dulles International Airport and the Udvar Hazy Center.

		Avg. Frequency (minutes)		
Dulles 2 Dulles	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM – 6:30 PM	60 (AM) 45 (PM)	45	n/a
Saturdays/Sundays	11:00 AM – 6:00 PM	n/a	45	n/a

Leesburg Battlefield/Ida Lee/Rust Library

This route is anchored at the Loudoun County Government Center and operates in a loop primarily along East Market Street, Plaza Street, North King Street, Union Street, North Street, West Market Street, Morven Park Road, Fairview Street, Cactoctin Circle and South King Street back to Market Street and the Government Center. Timepoints include the Douglass Community Center, Plaza North, Robinson Park, Ida Lee/Rust Library, Cornwall Street Medical Building, Loudoun County High School and Madison House. Buses run at 45-minute headways all day on weekdays.

		Avg. Frequency (minutes)		
Leesburg Battlefield	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM – 7:00 PM	45	45	n/a

Leesburg/Sycolin Road

This route is also anchored at the Loudoun County Government Center and operates as a loop in the south area of Leesburg. Routing is generally along Harrison Street, Gateway Drive, Sycolin Road, Battlefield Parkway, Tavistock Drive, Battlefield Parkway, Evergreen Mill Road, James Monroe Highway,

Clubhouse Drive and South King Street to Market Street and the County Government Center. Buses run at 45-minute headways all day on weekdays.

		Avg. Frequency (minutes)		
Leesburg/Sycolin Rd.	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM – 7:00 PM	45	45	n/a

Leesburg Trolley

This route is also anchored at the Loudoun County Government Center and serves the east and central areas of Leesburg. Buses generally follow East Market Street, Battlefield Parkway and Fort Evans Road to the Leesburg Corner Premium Outlets. Buses then continue to the Leesburg Walmart and travel south along Heritage Way and Fort Evans Road back to East Market Street. From here, buses follow East Market Street, Catoctin Circle, Harrison Street, Loudoun Street and Market Street back to the Government Center. Major stops include the Jewel Building, Douglass Community Center, Fort Evans Plaza, Leesburg Corner Premium Outlets, Walmart, Loudoun Museum and Leesburg Town Hall. Service is operated every 45 minutes on weekdays.

		Avg. Frequency (minutes)		
Leesburg Trolley	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM –7:00 PM	45	45	n/a

Leesburg Safe-T-Ride

This route is a free shuttle service, funded by the Town of Leesburg and the County. It provides riders with a safe alternative to crossing the Route 15 Bypass on foot in the vicinity of Fort Evans and Edwards Ferry Roads. The shuttle includes stops at the Leesburg Corner Premium Outlets, Fort Evans Plaza I, Battlefield Shopping Center (Shoppers Food Warehouse), Loudoun County's Shenandoah Building, the Montessori School, Evans Ridge Apartments and Battlefield Marketplace (Costco).

		Avg. Frequency (minutes)		
Leesburg Safe-T-Ride	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM –7:00 PM*	20	20	n/a
Saturdays/Sundays	9:00 AM – 6:00 PM	n/a	20	n/a

**Until 8:00 PM during the summer and holiday shopping season.*

Purcellville Connector

This route operates between Leesburg and Purcellville primarily along Route 7. Major stops westbound include the Loudoun County Government Center, Harmony Methodist Church in Hamilton, Patrick Henry College, 16th Street Shelter, and VRT offices. Major eastbound stops include the Loudoun Valley Community Center, Giant Grocery Store, Harmony Methodist Church in Hamilton, and the Loudoun County Government Center. Buses provide hourly service on weekdays only.

		Avg. Frequency (minutes)		
Purcellville Connector	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM –7:00 PM	60	60	n/a

Sterling/Countryside

This route connects William Watters House in Sterling with Bentwood Road in Countryside along East Maple Avenue, Circle Drive, Holly Avenue, Church Road, Magnolia Road and Atlantic Boulevard to Walmart and Dulles Town Center, then Stephanie Drive and City Center Boulevard to Countryside Shopping Center, and Countryside Boulevard and Algonkian Parkway to Bentwood. Buses operate at 30-minute headways on weekdays.

		Avg. Frequency (minutes)		
Sterling/Countryside	Span of Service	Peak	Midday	Evening
Weekday	7:00 AM –7:00 PM	30	30	n/a

West Falls Church Express

This route connects the West Falls Church Metro station with George Washington University-Virginia Campus, the HHMI Janelia Farm Research Campus, Inova Loudoun Hospital and the Ashburn North park and ride. Buses primarily use Route 28 and Route 7 (Harry Byrd Highway). For the most part, service is operated all day as round trips from West Falls Church Metro station. This service is funded through a JARC grant, combined with funding from the County, George Washington University, and HHMI.

		Avg. Frequency (minutes)		
WFC Express	Span of Service	Peak	Midday	Evening
Weekday	6:15 AM –8:40 PM	30	40	n/a

According to the schedule effective September 7, 2010

1.3.3 Paratransit Services

VRT provides Loudoun County's complementary paratransit (demand response) service as required by ADA. Citizens who live within ¾-mile of a fixed route and require ADA-regulated transportation services (i.e., curb-to-curb travel assistance) may complete an application to participate in Loudoun County's paratransit program. Riders are required to schedule their paratransit trips 24 hours in advance. VRT also offers demand response transit services for most of the county where fixed route services are not available. This service is open to anyone with 24-hour scheduled reservations, and is subject to availability. Service hours for the paratransit and countywide demand response services are Monday through Friday from 7:00 AM until 7:00 PM.

1.4 Fare Structure

Loudoun County's commuter, local and paratransit services use different fare structures. Fare information is presented below. This information is based on route schedules and web sites and telephone conversations with staff.

Commuter – The one-way fare between Loudoun and Rosslyn, Crystal City, Pentagon or downtown Washington, D.C. is $7.00 with a SmarTrip card or $8.00 in cash. The fare to ride the Tysons Express or Tysons Express Shuttle (Loudoun origination) is $3.00 one-way with a SmarTrip card or $3.50 in cash. The fare for commuter bus trips between Loudoun County and the West Falls Church Metro station is $1.75 with a SmarTrip card and $2.25 with cash payment. LINK is a free ride. Intra-county trips cost $1.00 in cash. The electronic fareboxes require that cash fares be paid with exact change. Children under 12 years old may ride for free.

Local – The base fare to ride local buses is $0.50 in cash or token, except for the West Falls Church (WFC) Express, which costs $1.75 in exact cash for a one-way trip, and the Leesburg Trolley and Leesburg Safe-T-Ride which are free for riders. Children under 10 years old may ride for free. Students and employees of GWU and HHMI are eligible for free rides on the WFC Express when they provide valid identification.

Paratransit – Demand response fares are $3.00, regardless of distance. There is a $2 fare discount for the disabled and a $1 fare discount for the elderly.

1.5 Vehicle Fleet

Loudoun County's commuter, local and paratransit services are each operated with different fleets.

In 2003, Loudoun County made the decision to purchase its own fleet for commuter bus service and contract out the storage, operation and maintenance of equipment. That year, the County applied for and received State Capital Assistance funds and Governor's Congestion Relief funds to combine with State Dulles Toll Road Set-Aside funds and lease/purchase financing to acquire 22 MCI D4500 commuter coaches. These buses, which began arriving in February 2004, are 45 feet long and accommodate 55 seated passengers with amenities such as reclining seats, restrooms, reading lights and LED destination signage. Since then, the County has continued to purchase commuter coaches, and now owns a fleet of 45 commuter buses. Table 1-2 summarizes the existing commuter route revenue fleet, including vehicles that have been leased from Veolia.

VRT local service requires 18 buses for typical weekday fixed-route operations. Information regarding VRT's fleet can be found in VRT's Transit Development Plan.

Table 1-2
Commuter Route Revenue Fleet

Vehicle Id #	Year	Useful Life	Make	Seated Capacity	# of Vehicles
Vehicles Owned					
71001-22	2004	12 years	MCI	55	22
71023-24	2005	12 years	MCI	55	2
71025-31	2006	12 years	MCI	55	7
71032-33	2007	12 years	MCI	55	2
71034-35	2008	12 years	MCI	55	2
71036-38	2009	12 years	MCI	55	3
71039-45	2010	12 years	MCI	55	7
				Subtotal, Vehicles Owned	45
Vehicles Leased					
72001-3	n/a	n/a	INT-El-Dor	24	3
72004-5	n/a	n/a	Vanhool	55	2
72006	n/a	n/a	Vanhool	55	1
				Subtotal, Vehicles Leased	6
Total Commuter Revenue Fleet					**51**

"n/a" indicates information is not available.

1.6 Facilities

1.6.1 Commuter Bus Maintenance Facility

Under the terms of the current operating contract with Veolia, Veolia is required to provide space to store and maintain the County's commuter buses. As such, they are currently leasing two sites in Purcellville to store buses. One site is leased from VRT, and the majority of the storage is on a second nearby site leased from a private landowner. The leased site from VRT includes the County's primary farebox probing station, two offices for Veolia's administrative staff and dispatch functions, and three maintenance bays. One of the bays is used for maintenance, one for washing, and one for shop space and parts storage, etc. These facilities are stretched far beyond their capacity, and are not able to accommodate the growth that is occurring. In order to provide a temporary stop-gap measure, this year, the County has provided storage space for up to 40 buses at the County garage facility in Leesburg. About twenty buses are currently being stored at this site. At the County facility, there is a second farebox probing station, access to the County fuel islands, and provision for bus-cleaning, but not bus washing. Veolia has worked with the Town of Leesburg to use a nearby dumping site for the buses that are stored in Leesburg. Pre-tripping and pull-out occurs from both the Leesburg and Purcellville storage locations. While the temporary accommodations allow the County to continue to provide service to meet demand, it is not a permanent solution.

In order to establish a permanent solution for storage and maintenance of commuter buses, the County is pursuing the construction of a Transit Maintenance and Operations Facility (TMOF). A feasibility study that was developed as part of the TMOF project details the space requirements for the future facility, and calls for the accommodation of employee parking, maintenance bays, maintenance support spaces, service functions, bus parking, administrative offices and support spaces, employee facilities, and

operations areas including dispatching, supervisor's offices, and driver training and assembly rooms. This facility is proposed to be developed on a County-owned site adjacent to the current County garage in Leesburg.

The design contract with CH2M Hill was approved by the Board of Supervisors at their November 16, 2010 business meeting. Design will take place over the course of the next eight months, with construction slated to begin in FY 2012.

1.6.2 Local Bus and Paratransit Maintenance Facility

VRT's facility is located in Purcellville; vehicle storage, maintenance, operations, dispatch and administrative functions occur at this site for both fixed route and paratransit service. VRT is presently planning to expand their storage lot and add a second story to their administrative building.

1.6.3 Park and Ride Lots

Loudoun County commuter service operates primarily from leased and donated park and ride spaces. These spaces are available at churches, shopping centers and vacant buildings with excess parking capacity. VDOT also provides park and ride locations, especially at major highway interchanges. The County purchased one existing parking facility at Strayer University, now serving as the Ashburn North park and ride lot, and recently designed and built its first (owned) park and ride lot on a site off of Sycolin Road in Leesburg. Three additional County park and ride lots are in various stages of planning, design and construction: 1) a new park and ride lot east of Hamilton at the Scott Jenkins Memorial Park is under construction and scheduled to open in June 2011; 2) a new park and ride lot at Franklin Park is in development and is anticipated to be open in late 2011; and 3) a third park and ride lot is under consideration for South Dulles (East of South Riding Boulevard). In general, there is no charge to park in any of the designated park and ride spaces and overnight parking is not permitted. Table 1-3 summarizes Loudoun County park and ride lot spaces by location. This table includes some smaller community park and ride lots that are reserved for carpools and vanpools, and are not presently served by transit.

1.7 Transit Security Program

The Loudoun County Sheriff's Office randomly patrols and performs checks in the County's park and ride lots. However, parking is at the rider's own risk. Loudoun County is not liable for any theft, towing or vandalism that may occur on the premises.

1.8 Public Outreach

Loudoun County has established a Commuter Bus Advisory Board (CBAB) that acts in an advisory capacity to staff and the Board of Supervisors on policy and operational matters pertaining to the LC Transit commuter bus service between Loudoun County and the Washington, D.C. metropolitan area. The advisory board is aware of day-to-day problems, provides a forum to discuss them in detail, and, where appropriate, makes recommendations to staff and the Board of Supervisors. CBAB also works with staff on route and schedule planning. CBAB has from five to nine Board of Supervisors-appointed members, who live in Loudoun County and who use the LC Transit system. Members are appointed by district, but residency in the district is not required. CBAB meets bi-monthly on days and times

established by the group. Staff sends notice of all meetings and agendas to the commuter bus riders in advance of the meeting, and publishes minutes from each meeting on the County website. Meetings take place in the County Government Center, 1 Harrison Street, S.E., in Leesburg.

All proposed service changes are reviewed first by CBAB, and are then available for public comment for 30 days. Comments, and any suggested revisions from the public comment process, are then reviewed by CBAB. Proposed service changes are posted on the County's website, **www.loudoun.gov** , and are communicated to LC Transit riders through the County's "Bus Biz" e-mail system. The Bus Biz e-mail system is also used to communicate upcoming events, for example: "Next Tuesday is Veteran's Day and the commuter buses will follow the holiday schedule."

The County also has an LC Alert system that is a text messaging/e-mail system used to send immediate information to a telephone or Blackberry. Examples of information sent through LC Alert are, "Your bus is late due to an accident," or "Your bus stop has been temporarily closed; please go to…," etc.

Service suggestions and complaints regarding VRT services are forwarded to VRT staff. However, Loudoun County OTS staff also works closely with VRT staff in service planning-related tasks, such as suggesting route alignment changes. Finally, VRT is governed by a Board of Directors that meets regularly and provides the general public opportunities to express comments.

2.0 GOALS, STRATEGIES, POLICIES AND STANDARDS

Loudoun County's Countywide Transportation Plan was first developed in 1995. It was updated in 2001, and has recently gone through a second update this past summer (2010). The primary intent of the *2010 Countywide Transportation Plan* (*2010 CTP*) is to serve as a guide for future transportation infrastructure investment. The *2010 CTP* addresses all modes and contains that County's first-ever long-range transit plan. Furthermore, the *2010 CTP* is a companion document to the *Revised General Plan* and falls under the umbrella of the County's Comprehensive Plan. These documents give policy guidance on land and infrastructure development and direction for new area plans. Policies presented in the *2010 CTP* are intended to support the land use policies of the *Revised General Plan*.

2.1 2010 CTP Goals and Strategies

The *2010 CTP* identifies the following transportation goals and strategies in support of the County's vision for transportation. Many of these are specifically related to expanding a multi-modal transportation system in Loudoun County. Goals are identified in bold italics, with supporting strategies beneath each goal.

1. ***Provide a safe, affordable, convenient, efficient and environmentally sound multi-modal transportation system to serve Loudoun County.***
    a. Complete the build-out of the major road network while ensuring integration with the local road network, encourage connectivity between developments to reduce the overall burden on the major road network and set tangible, achievable goals demonstrating incremental progress towards that end.
    b. Complete a multi-modal system to include rail, express buses, feeder buses, bicycle and pedestrian-friendly communities and ensure that all new projects or major reconstruction projects shall accommodate travel by vehicles, pedestrians, bicyclists and transit riders as integral elements of the County's transportation system.
    c. Work with the Virginia Department of Transportation to implement a multi-modal safety improvement program and multi-modal design standards.
    d. Identify priorities that will provide the greatest benefit.
    e. Employ intelligent transportation systems technologies in order to maximize the efficiency of the transportation network.
    f. Track overall system performance.
    g. Develop educational programs to promote and encourage the use of transit, bicycle and pedestrian improvements.

2. ***Ensure the transportation system supports all applicable County goals including but not limited to the Revised General Plan's goals for supporting vibrant communities and employment centers and protecting natural and heritage assets.***
    a. Integrate transportation policy with land use policy.
    b. Locate improvements and facilities to complete gaps in the Suburban Policy Area transportation system and reduce trip lengths, travel times and automobile dependence.

3. ***Ensure that the character of and quality of life in the County are protected and maintained.***

a. Work with the Virginia Department of Transportation to update standards within the context of a multi-modal network.
b. Employ context-sensitive design in order to respect historic and environmental features and community character.
c. Identify scenic by-ways and historic routes.
d. Respect and encourage shared use of rural roads by pedestrians, equestrians, farm vehicles, bicyclists and automobiles by making only those improvements necessary for the safety and utility of all users.
e. Support road designs within residential neighborhoods that are compatible with pedestrian and local residential use.

4. Ensure that planned land uses are supported by appropriate transportation planning with respect to the types, levels and timing of transportation improvements to serve the four Suburban Policy Area communities and employment centers, the Transition Policy Area towns and the Rural Policy Area.

a. Link land use and transportation decisions.

5. Ensure the County's interests are addressed and that cooperation between neighboring jurisdictions is facilitated in regional and statewide plans.

a. Fully participate in regional and statewide planning efforts.

6. Ensure that the maximum funding available is obtained for transportation improvements

a. Comply with all applicable environmental regulations.
b. Pursue proffers, special tax districts, business ventures, bonds, other funding sources, or a combination thereof as appropriate.
c. Lobby state and federal officials.

2.2 Transit-Related Policies

Chapter 3 of the *2010 CTP* addresses the County's existing and proposed transit program and identifies travel demand management strategies that are intended to reduce single occupant travel or redistribute the demand for single occupant travel away from the peak travel periods. The transit plan portion of the *2010 CTP* had an extensive stakeholder and public outreach process. Riders on existing local and commuter services were surveyed to determine rider service needs, public meetings were held, and a Transit Plan Advisory Committee (TPAC) was also assembled for input into the transit planning process and resulting recommendations. Transit-related plans and policies presented in this TDP are based on work completed in the *2010 CTP*, and thus reflect input received through that transit planning process. Transit-related policies identified for Loudoun County in the *2010 CTP* are as follows:

Transit and Land Use

1. The County will direct new development to identified transit corridors and zones that are outlined in the *Revised General Plan* for economic, environmental, social and other reasons that will improve the viability and cost-effectiveness of the future transit services and reduce traffic congestion in the Suburban Policy Area where applicable. The County will require design features to improve transit accessibility and efficiency, such as grid street patterns and streetscapes that accommodate pedestrians and bus stops.
2. The *Revised General Plan's* land use map depicts two transit nodes located along the Dulles Greenway. Characteristics of these areas shall include:

a. Cooperation of property owners with the public sector (the County, WMATA, MWAA, DRPT, etc.) to provide adequate transit facilities and connections for all modes to support maximum use of the transit system; and
b. Major access roads will be located on or near the periphery of the Transit Nodes to avoid conflict with transit services and pedestrian traffic (e.g., Mooreview Parkway and Shellhorn Road).
c. Reducing parking requirements for development near transit nodes once transit becomes available in order to encourage transit usage. Techniques to achieve reduction in parking requirements may include: pricing, shared parking, reduced or maximum on-site parking requirements, and on street parking counting toward on-site parking requirements.
d. Strategies to remove barriers for pedestrian, bicycle and wheelchair access to the transit node from surrounding neighborhoods (such as limited access highways or arterials with inadequate pedestrian crossings). The transit node area and adjoining public spaces will be made accessible to persons with disabilities, to include provision of such improvements as audible pedestrian signals.

3. The County may permit interim development in transit corridors (Rt. 7, Rt. 50, Rt. 28 and the Dulles Greenway) at densities lower than those needed to support viable services. This will be limited to situations where there will be a tradeoff benefit (e.g., ongoing revenue stream to subsidize the service, analogous infusion of capital/in kind contribution, or combination) associated with the development, which promotes the viability of intended transit services.
4. Development of transit facilities and transit centers, defined as a fixed location where passengers transfer from one route to another, in the County's designated Urban Center is an integral part of the county transit plan; the designated Urban Center at Dulles Town Center is a critical origin, destination and transfer point of recommended transit services. Additional transit centers will be identified in the future through the Community Plan process and the land development application process.
5. The County anticipates that a minimum 10% mode split will be achieved through the land development application process for applications within the transit corridors. Mode split is defined as the proportion of people that use each of the various modes of transportation. Strategies to achieve this goal should be identified and an implementation plan defined as part of the application.
6. The County will access applications related to transit nodes in terms of station access needs, circulation, improvements, pedestrian-friendly design and other key features related to transit-oriented development.

Public Transit Policies

1. The County will take the lead to expand transit services that are responsive to growth, congestion and air quality demands on the region.
2. County involvement in transit will be implemented based on transit service recommendations detailed in Chapter 3 of the CTP. These recommendations include modifications to existing services, expansion of service hours and service days, and introduction of new routes and services. The County will continue to plan, coordinate delivery of, and manage service through contracts with private operators.
3. The County will provide technical and financial support for transit programs meeting identified needs described in Appendix 5, Market Analysis of the *Countywide Transportation Plan*.
4. County financial assistances for transit programs will be based on the following objectives:

a. The County will strive to maximize the cost effectiveness of all transit and rideshare programs subsidized by the County through review of route performance and costs. Underperforming routes (routes where ridership does not meet performance criteria) will be refined to maintain system efficiency. Where services are provided by contractors, these performance indicators will be provided by the contractors to the County for evaluation purposes.
b. The County will promote the use of transit services as an alternative to the single occupancy vehicle, including the linkage of local routes and commuter routes to promote all-transit commuting where feasible.
c. The County will promote the use of transit services by transit dependent individuals through fare assistance and coordination of services with other transit providers within and adjoining Loudoun County.
d. The County will promote the use of transit services with outreach efforts that may include public transit workshops and transit friendly user guides.
e. The County will strive to continue bus transit services when gasoline tax funding resources are required to be devoted to Metrorail in the future. Strategies to continue these services may include development of new revenue sources for local and/or commuter services and increasing commuter bus fares to a level that would no longer require County subsidy.

Dulles Corridor Metrorail Project Policies

1. The County will facilitate the implementation of rail service in the Dulles Greenway corridor. This service will serve Fairfax County locations in the corridor and extend to Loudoun County stations at Dulles Airport, Route 606/Dulles Greenway and Ashburn (Route 772).
2. The County, in partnership with VDOT, WMATA and/or other appropriate agencies, will ensure that land needed to provide planned transit improvements (e.g., Metrorail parking lots, separate rail rights-of-way, dedicated bus ways, etc.) is obtained or reserved prior to or during the process of reviewing land development applications which affect such land. Land acquisitions and reservations will take into consideration both the near term and ultimate transit system configurations.

Park and Ride Lot Policies

1. Park and ride lots in the towns and the Suburban Policy Area will be located along or at the intersection of arterial or major collector roads, near activity centers such as commercial or mixed-use centers, schools or other destinations, at transit stops, or in other safe and secure locations that provide convenient access. They should be connected by sidewalks or shared pathways to enable carpoolers and pedestrians to walk to the lot. These park and ride lots should receive priority consideration for the installation of bicycle lockers and racks.
2. Park and ride lots may be co-located with other complimentary uses, such as recycle centers, churches, parks and retail development areas.
3. Park and ride lots will be designated to provide convenient and safe bus access either within or adjoining the lot. Boarding locations for all transit and shuttle services at or near park and ride lots should be designated and signed. Schedules, service and fare information should be posted at boarding locations. All such areas need to be evaluated for provision of seating and weather protection. The relevant provisions of the Americans with Disabilities Act need to be incorporated in lot layout and boarding area design.
4. Park and ride lots should be developed on the basis of residential growth; specifically, there should be one commuter park and ride space for every 30 new households approved for

development. These spaces do not include parking for Metrorail stations, nor should this guideline be applied to development immediately adjacent to Metrorail stations. These spaces also do not include "Gateway" park and ride lots that are intended to intercept through-traffic and inbound commuters from adjacent counties. These "Gateway" lots are proposed along Route 7 near the Clarke County border, along Route 9 near the Jefferson County border and along Route 15 north of Lucketts.

5. Regional park and ride lots will not be located within the inner core of the Transit Oriented Development (TOD) where pedestrian and bicycle access is given priority.
6. The County will develop transportation demand management standards that will be used to reduce vehicle miles traveled. These will include reducing through-traffic by providing park and ride lots and commuter transit service near Loudoun's borders on major routes, and requiring local street connectivity according to an index of street connectivity that will be required in traffic impact statements for large developments.

Bus Shelters and Amenities Standards

1. All park and ride facilities will be well lit and equipped with waste receptacles.
2. A large 16-foot long bus shelter will be required to serve transfer points, commuter bus stops and other locations where high boarding concentrations are anticipated. A smaller 12-foot long bus shelter may be provided in other locations.
3. Solar lighting will be provided inside bus shelters with both timer and motion detector options. Exceptions may be made when other sources of lighting are available, i.e., overhead street light.
4. Bus shelters that are erected on private property will be maintained by the property owner with the following guidelines: trash is to be removed at minimum twice a week, all graffiti to be removed immediately from shelter, landscaping, if applicable, will be kept neat surrounding the shelter, and lighting will be in working order.
5. All frames, side panels, roof panels, hardware and accessories associated with the bus shelters on private property will be the responsibility of the property owner to guarantee repair and/or replacement of worn-out/defective parts.
6. The County will supply appropriate schedules and/or brochures for placement in shelter display racks.

2.3 Performance Standards

As noted under Public Transit Policies, the County is to strive to maximize the cost effectiveness of transit service through review of route performance and costs. Loudoun County OTS staff regularly monitor bus on-time performance, park-and-ride lot utilization and bus passenger loads by bus trip. CBAB (described in Section 1.8) also provides OTS staff with important rider input with regards to service conditions for customers. Service adjustments are made accordingly based on this monitoring.

There are, however, no specific performance standards in place for existing LC Transit or VRT service. The application of performance standards varies among transit agencies. Some transit agencies have a robust monitoring program to keep track of specific service standards as a means to determine when service modifications are warranted.

One source of performance standards is the TRB's *Transit Capacity and Quality of Service Manual* (TCQSM). This document provides quality of service measures, as perceived by customers. The TCQSM suggests ratings of "A" to "F" for various service characteristics. Another potential source for standards

is in the Transit Cooperative Research Program's (TCRP) *Synthesis 10: Bus Route Evaluation Standards* (1995). This report identifies service measurements for the following categories: route design, schedule design, economic and productivity, service delivery, and passenger comfort and safety. It is also noted that the transit service recommendations presented in the *2010 CTP* were based on the following service productivity benchmarks:

- Local Fixed Routes – minimum of 5 passengers per hour; goal of at least 10 passengers per hour
- Express Routes – minimum of 10 passengers per hour
- Commuter Routes – minimum of 20 passengers per hour (which, based on run times, translates to about 40 passengers per bus trip)

The benchmarks used in the *2010 CTP* could also be used as route performance standards.

Denver's Regional Transportation District (RTD) is an example of an agency that has a robust service monitoring program in place with specific performance standards. Unique standards apply to different service categories (e.g., local routes, express routes, regional routes, and SkyRide (airport) routes). RTD has in place service design standards that address characteristics such as directness of a route, minimum service frequencies and stop spacing standards. They also have ridership evaluation standards. Three key performance standards utilized by RTD are:

- Passengers per revenue bus-hour (a route performance standard)
- Passengers per Bus Trip (a route performance standard)
- Subsidy per Passenger Trip (a cost effectiveness standard)

Other evaluation standards in place include: maximum load standard, specific trip performance, vehicle assignment type, and standards related to the design and evaluation of portions of routes.

It is recommended that Loudoun County consider the eventual establishment of a service monitoring program and performance standards as part of this TDP effort. Performance standards could be based strictly on passengers per hour (i.e., the benchmarks used in developing the *2010 CTP*), or could reflect a more robust monitoring program, such as the program in place at RTD.

The development of such a program should be based on input from stakeholders including CBAB. Measures to consider include qualitative and quantitative measures, at both a systems and route-level, and should utilize data that is normally collected by OTS staff. A quarterly monitoring program is recommended. The service monitoring program should also identify potential steps to consider when routes fall below, or exceed established measures.

Loudoun County also provides significant funding to VRT for the provision of local route service. There are no specific monitoring procedures in place for local route service in Loudoun County. A parallel monitoring program with specified performance standards is also recommended for local routes. The establishment of such a program will require coordination with VRT and should include input from local route riders and other stakeholder groups.

3.0 SERVICE AND SYSTEM EVALUATION

As previously noted in Chapter 1 of this TDP, Loudoun County currently provides commuter service through a contract operation and has partnered with VRT to provide local service within the County. The commuter service operates weekdays only, with nearly all trips operating in the peak periods. Service destinations are the central core of the D.C. metropolitan area (downtown D.C., Rosslyn, the Pentagon, Crystal City), and to/from the West Falls Church Metrorail station (reverse commute service into Loudoun County is provided from West Falls Church Metro). All local routes but one (Dulles 2 Dulles) operates weekdays only, generally from 7:00 a.m. to 7:00 p.m. Figure 3-1 presents the park and ride lots served by LC Transit commuter routes, and Figure 3-2 presents the local routes operating in Loudoun County.

This chapter of the TDP presents existing and historical ridership characteristics for both the commuter and local route services. Results from recent transit rider surveys are presented, followed by a peer review that compares transit service performance in Loudoun County to transit performance in similar settings. The chapter also includes a transit market analysis that was conducted as part of the transit portion of the *2010 CTP* and a discussion about Loudoun County's Comprehensive Plan. The chapter ends with public and stakeholder outreach efforts and ITS projects and programs.

3.1 Existing and Historical Ridership Characteristics

Existing Loudoun Commuter bus ridership and VRT ridership information was provided by OTS.

3.1.1 Commuter Service

In FY 2010, Loudoun County commuter service carried 966,824 riders on its commuter services, with an average of almost 4,000 riders a day. Over 83% of these riders were on the commuter routes to/from Washington D.C., 13% were on the Cascades peak direction service to/from West Falls Church and 4% were on the reverse commuter service to employment destinations in Loudoun County. September 2010 ridership was reviewed on a trip level basis to determine service utilization characteristics. Average passenger loads are as follows:

- D.C. trips to/from Dulles North, Dulles South, Leesburg and Purcellville –45 passengers per bus trip
- D.C. trips to/from Ashburn – 30 passengers per bus trip
- Cascades/West Falls Church Trips - 35 passengers per bus trip

Trips to the core area of D.C. are very well-utilized, as reflected above. Over 18% of the a.m. peak trips and 22% of the p.m. peak trips had ridership greater than the seated bus capacity (55 passengers). Trips operating over capacity tend to be trips that serve Dulles North, Leesburg and Purcellville. Trips to/from Ashburn and Cascades/WFC service also are well-utilized, but with only a few of those trips operating over capacity.

Figure 3-1
Park and Ride Lots Served by LC Transit

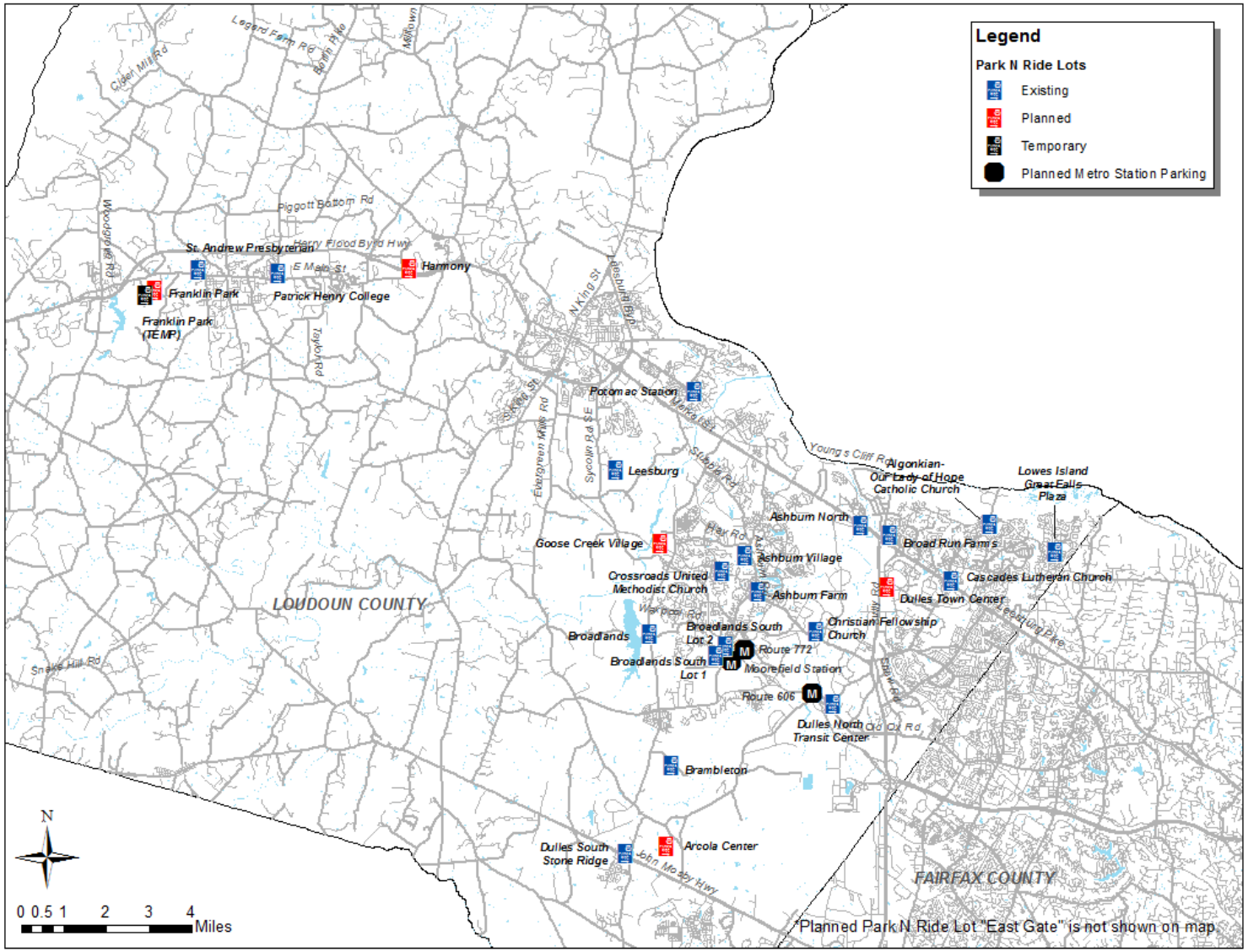
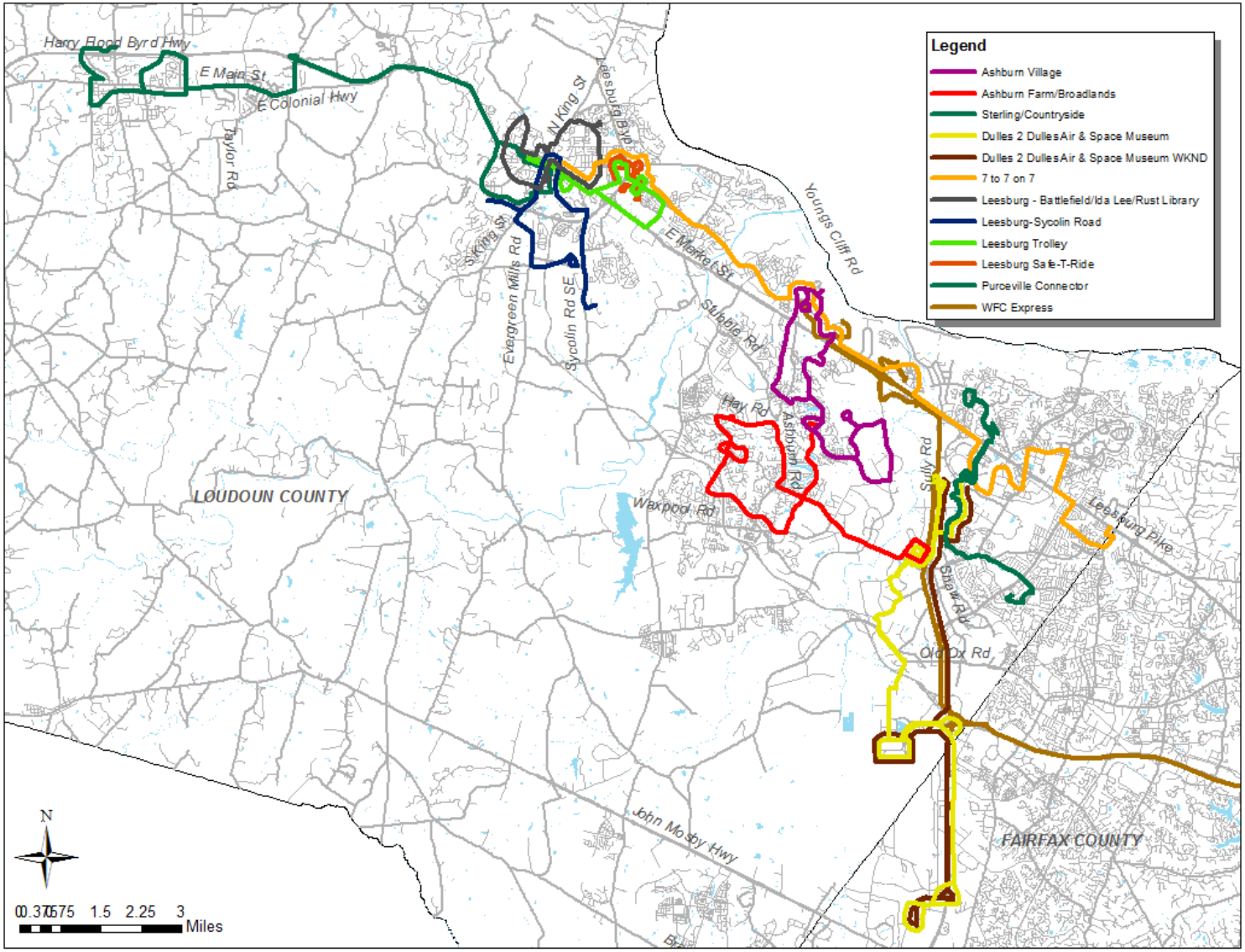
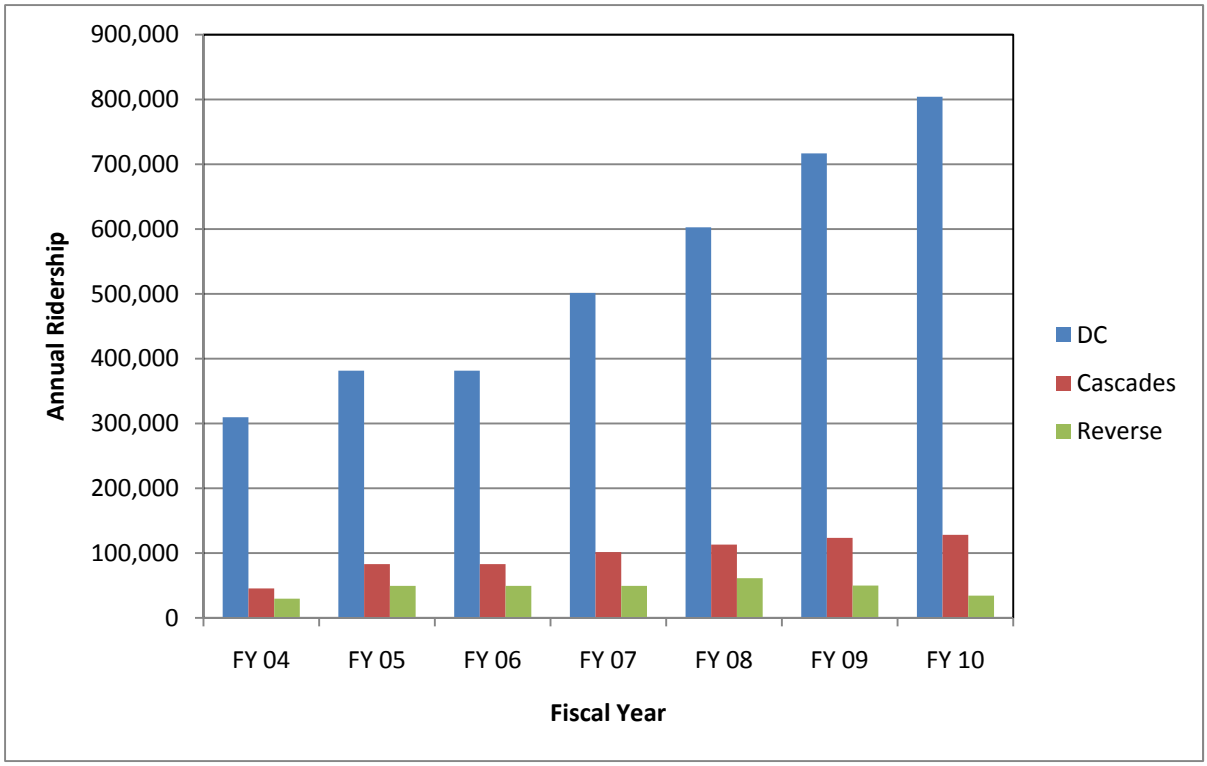


Figure 3-2
VRT Local Route Service in Loudoun County



Ridership has increased every year on the commuter services. FY 2010 ridership is over 2.5 times higher than ridership in FY 2004. Figure 3-3 presents annual commuter service ridership levels from FY 2004 through FY 2010 by service type. Direct D.C. commuter and Cascades ridership has increased every year. Reverse commute service ridership has dropped over the past two years, due to employment reductions at AOL and Verizon.

Figure 3-3
Commuter Services - Historical Ridership



Ridership and cost productivity historical characteristics were also reviewed. Figure 3-4 presents LC Transit's passenger trips per revenue bus-hour. Annual ridership and annual revenue bus-hours were obtained from the National Transit Database (NTD). Revenue bus-hours are defined as the time a bus is in service and available to the public. Revenue bus-hours include layover/recovery time, but does not include deadhead time. As Figure 3-4 indicates, riders per revenue-hour has trended lower in recent years due to the significant increase in LC Transit's revenue bus-hours which has outpaced additional ridership (e.g., 86% increase in revenue bus-hours from 2007 to 2010 vs. a 48% increase in annual ridership). Some of the new services added have been reverse commute services, midday service and new commuter service at the beginning and end of the peak periods, which is less productive than commuter services in the "peak" of the peak periods. Thus, a drop in ridership productivity is not unexpected under these conditions. As noted earlier in this section, riders per bus trip remain very high, with many trips operating over seated capacity, thus reflecting continued high ridership productivity.

Figure 3-4
LC Transit Riders per Revenue Bus-Hour

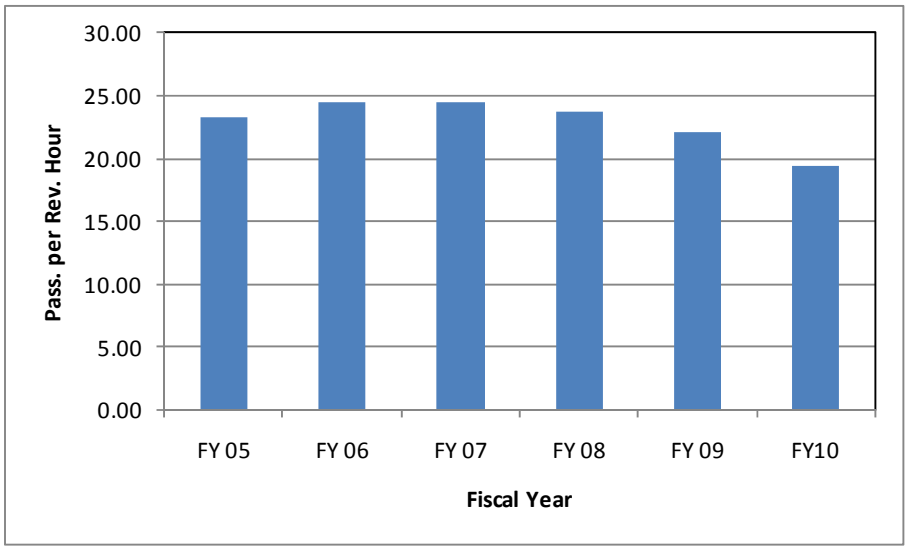


Figure 3-5 illustrates LC Transit's cost per passenger trip. Annual ridership data in Figure 3-5 are also from NTD, annual O&M costs are from OTS (including depreciation costs). Costs have remained between $8 and $9 per passenger trip for the past four years, thus reflecting financial stability.

Figure 3-5
LC Transit Cost per Passenger Trip

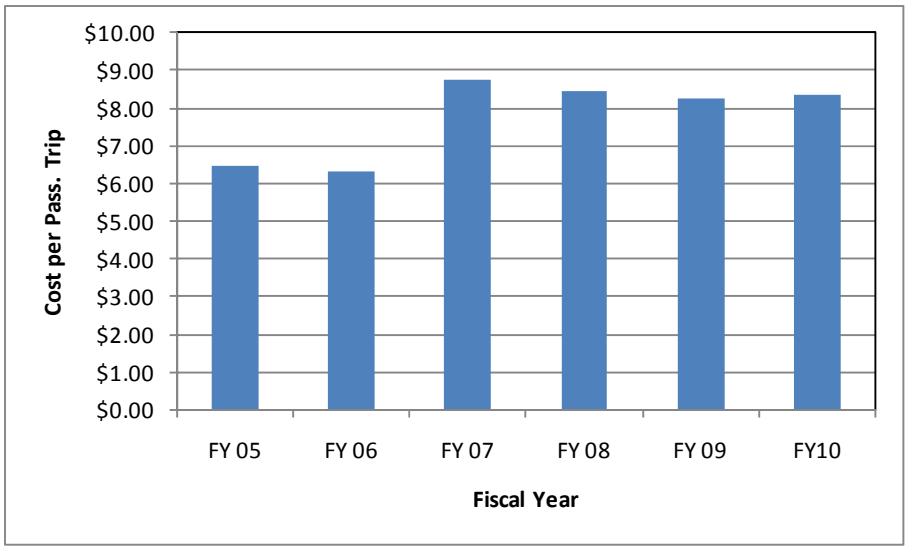
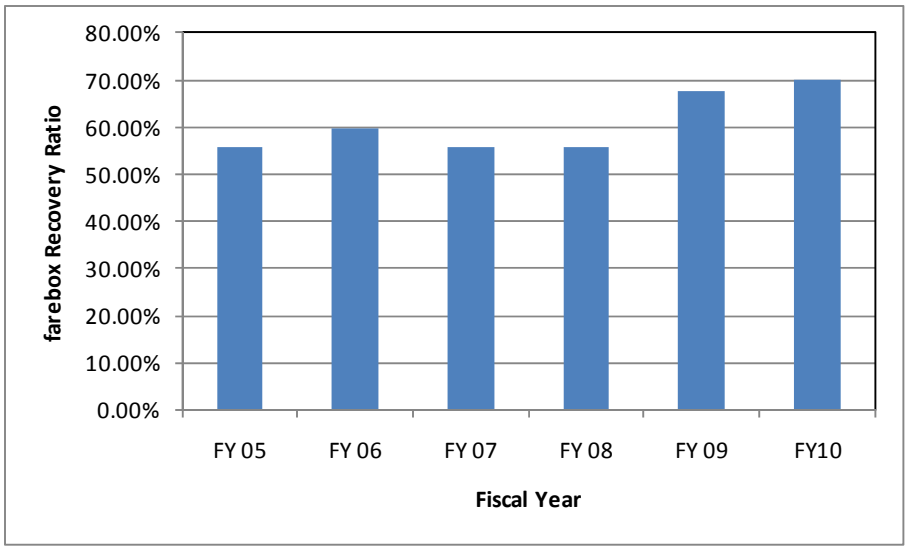


Figure 3-6 presents LC Transit's farebox recovery ratio (farebox revenues divided into annual O&M costs). Annual O&M costs and farebox revenues used to create this figure were provided by OTS. LC Transit has seen an increase in the farebox recovery ratio from FY 2008 to FY 2010, with fares currently recovering almost 70% of actual operating and maintenance costs.

Figure 3-6
Farebox Recovery Ratio



3.1.2 Park and Ride Lot Utilization

As previously noted in Chapter 1 of this TDP, Loudoun County commuter service operates from a variety of park-and-ride lots. Some are leased and donated lots, and others are proffered lots. The Dulles North lot is VDOT-owned. The Leesburg and Ashburn North lots are currently the only two county-owned lots.

Currently, all of the park and ride lots served by transit are near capacity, with the Dulles North Transit Center and the Leesburg Park and Ride lot over-parked on most mid-week days. Table 3-1 presents park-and-ride lot utilization rates at lots served by LC Transit.

Table 3-1
LC Transit Park-and-Ride Lot Utilization

Park and Ride Lots served by transit	Ownership	Percent of Capacity Used
Algonkian	Donated space	65%
Ashburn North	Owned	65%
Christian Fellowship	Donated space	100%
Broadlands South 1	Proffered space	90%
Broadlands South 2	Leased	35%
Broad Run Farms	Donated space	20%
Cascades	Proffered space	75%
Dulles North Transit Center	VDOT lot	120%
Dulles South	Proffered space	85%
Leesburg	Owned	100%
Lowes Island	Leased	100%
Purcellville – St Andrew	Donated space	85%
Purcellville – Patrick Henry	Leased	85%
Purcellville – Franklin Park	Donated space	85%

3.1.3 Local Fixed Route Service

As previously noted, VRT provides local route service in Loudoun County. FY 2010 ridership was approximately 500,000 on VRT's fixed routes, with an average of about 2,000 riders a day. An additional 250 riders a day rode the West Falls Church express service in FY 2010. More recent figures for FY 2011 indicate ridership has risen to about 2,500 per day on the local routes and 300 riders per day on the West Falls Church express service. Figure 3-7 illustrates average daily ridership throughout each month for the past five years. As reflected in this figure, ridership has grown every year. There was a dip in ridership in January and February 2010, most likely due to unusual winter weather (i.e., heavy snowfalls).

Figure 3-7
Average Daily Ridership by Month
Local Loudoun County Routes

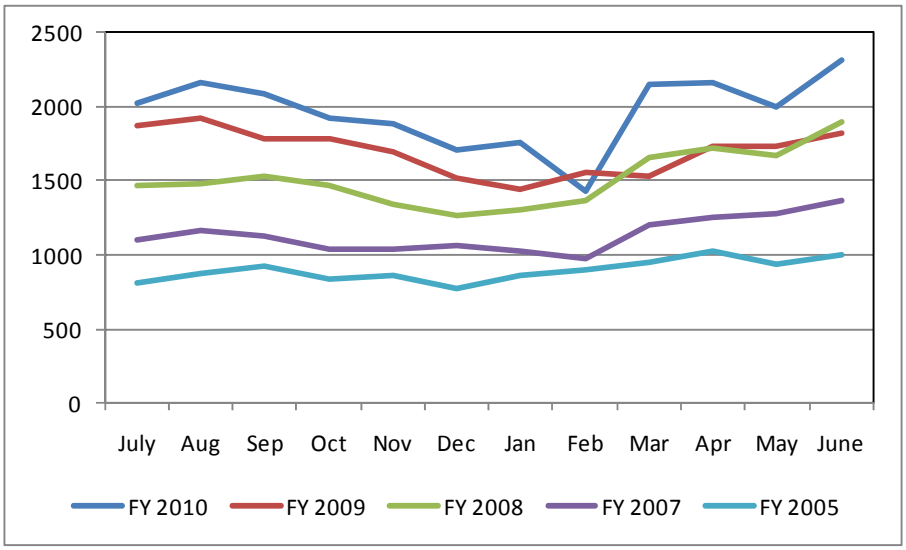


Figure 3-8 illustrates average daily FY 2010 ridership by route for the seven local routes operated by VRT. The "7 to 7 on 7" route has the highest level of ridership and accounts for 39% of all local route ridership. This is followed by the Leesburg circulator routes (23%) and the Sterling Connector route (17%).

Figure 3-8
FY 2010 Average Daily Ridership by Route
Local Loudoun County Routes

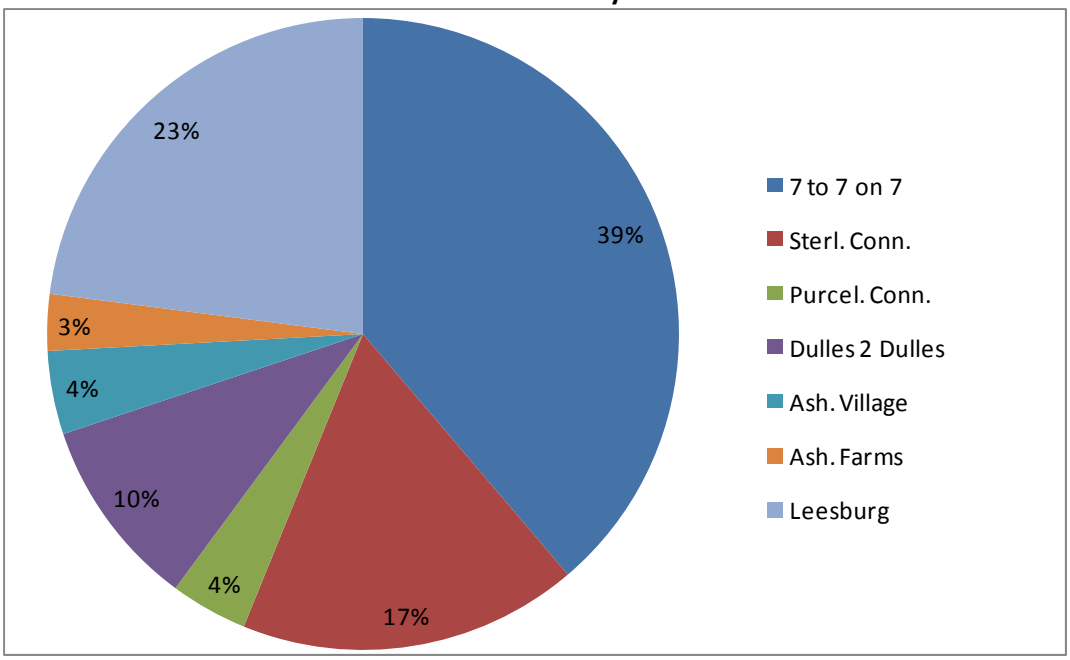
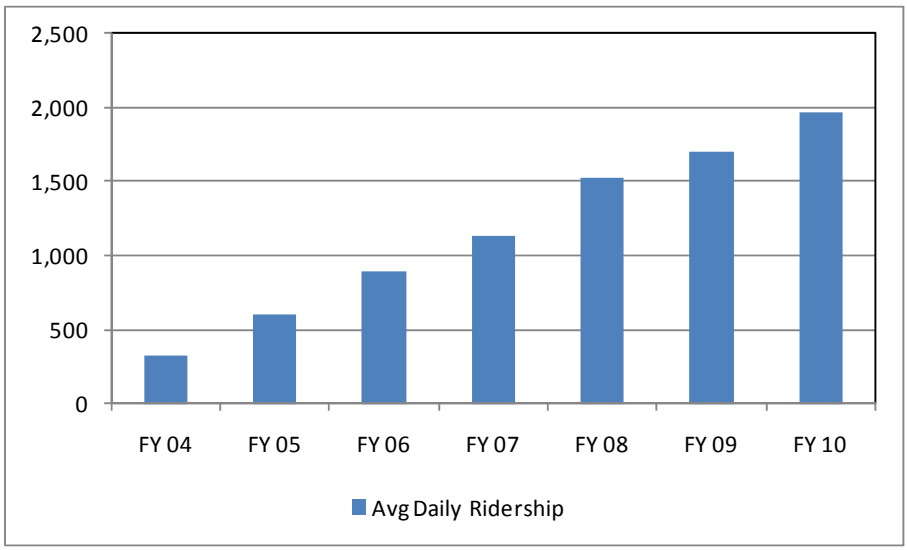


Figure 3-9 further illustrates how ridership has grown significantly on Loudoun County's fixed route services, showing average daily ridership by fiscal year from FY 2004 through FY 2010.

Figure 3-9
FY 2004 through FY 2010 Historical Ridership
Local Loudoun County Fixed Routes



Note: does not include West Falls Express ridership, which began service in FY 2009

3.1.4 Demand Response Service

VRT also provides demand response services within Loudoun County. Citizens who live within ¾-mile of a fixed route and require ADA-regulated transportation services (i.e., curb-to-curb travel assistance) may complete an application to participate in Loudoun County's paratransit program. VRT also offers demand response transit services for most of the county where fixed route services are not available. This service is open to anyone with 24-hour scheduled reservations, and is subject to availability. In FY 2010, VRT carried 14,623 demand response passenger trips. There were 11,508 annual revenue bus-hours reported in FY 2010 for the demand response service, equating to 1.27 passenger trips per revenue bus-hour.

3.2 Peer Agency Review

A peer analysis provides the means to compare various performance characteristics of a transit agency to transit systems of similar size. Transit agencies report such information to the Federal Transit Administration (FTA), which records the information annually in the NTD. Agencies have strict requirements regarding the manner in which cost and service characteristics are reported to the NTD. Thus, the NTD provides a consistent set of measurable data that can be used in a peer systems analysis.

While a peer analysis based on NTD data provides operational and financial information, it is important to keep in mind other aspects of service quality that are not reported in the NTD, such as passenger satisfaction, vehicle cleanliness and comfort, schedule adherence and route connectivity. It is also worth noting that there may be unique operating and financial characteristics associated with a particular transit agency.

The NTD is the only comprehensive source of validated operating and financial information reported by transit systems nationwide. This database is updated annually by submissions from each transit system. The FTA reviews and confirms the accuracy of the information received and publishes a final report after all reporting transit systems successfully respond to comments and inquiries. The NTD is used by the FTA and other federal, state, and local agencies as a resource to help guide public investment decisions, shape public policy, and develop planning initiatives. The NTD reports various standard measures of performance that allow decision makers and other stakeholders to determine the efficiency and effectiveness of transit services on a local, regional and national basis. It is important to note that smaller systems (i.e., operating with fewer than nine peak vehicles) have the option of taking an exemption from NTD reporting. Loudoun County does report its operational service and financial information to NTD. Virginia Regional Transit also reports to NTD, but as a rural transportation provider.

3.2.1 Peer Selection Process

Consideration was given to selecting peer systems with similar service area characteristics. Considerations included population density, number of routes, county area population and county area size. Because of the unique characteristics of Loudoun County transit service, two sets of peers have been identified – one for LC Transit's commuter service and one for VRT local route service. The following four transit systems were identified as appropriate peers for Loudoun's commuter service:

- Georgia Regional Transit Authority (GRTA) in Atlanta, GA (operates express bus services only);
- Potomac and Rappahannock Transportation Commission (PRTC) in Prince William County, VA (the OmniRide portion of their services);

- Minnesota Valley Transit Authority (MVTA) in Dakota County, MN serving suburban Minneapolis/St. Paul (the express portion of their services only); and
- San Joaquin Regional Transit District serving San Joaquin County, CA (their express services only).

The following four transit systems were identified as peers for Virginia Regional Transit fixed route service:

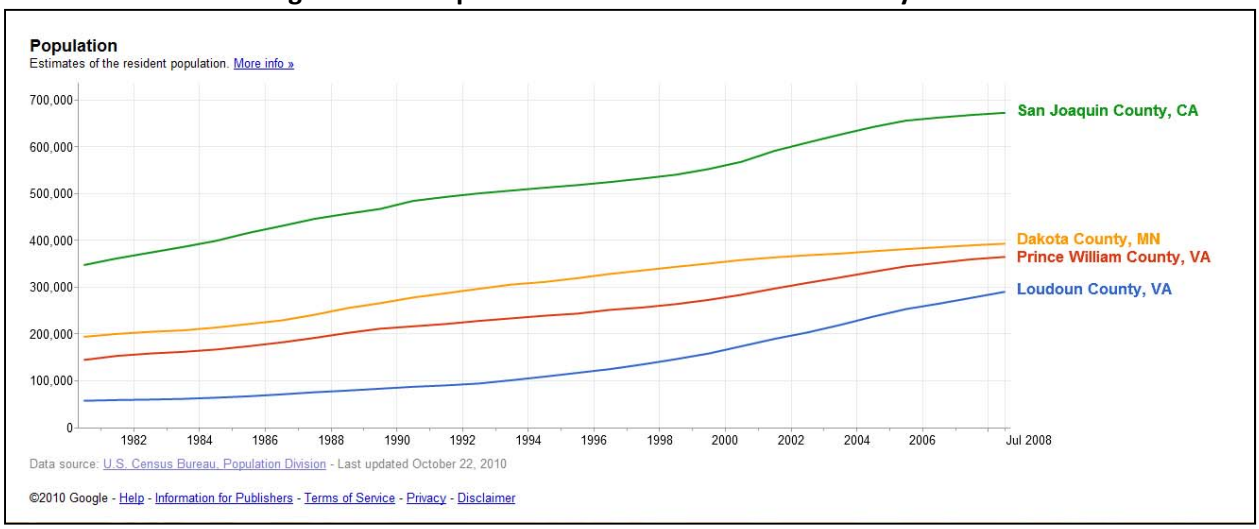
- Howard Transit in Howard County, MD;
- Potomac and Rappahannock Transportation Commission (PRTC) in Prince William County, VA(the OmniLink portion of their services);
- Minnesota Valley Transit Authority (MVTA) in Dakota County, MN serving suburban Minneapolis/St. Paul (their local route services only); and
- County Commissioners of Charles County (VanGo) in Charles County, MD.

FY 2009 NTD data was used for this peer analysis (motor bus statistics and costs only). Three of the four peer commuter/express systems required a split in system service statistics (e.g., PRTC service statistics were split between OmniRide and OmniLink). FY 2008 data was available to split service statistics, ridership and costs for PRTC and San Joaquin RTD, and was applied to the FY 2009 NTD data for those systems. MVTA was contacted to obtain information regarding their split in local vs. express/commuter service statistics and cost data.

3.2.2 Population Characteristics

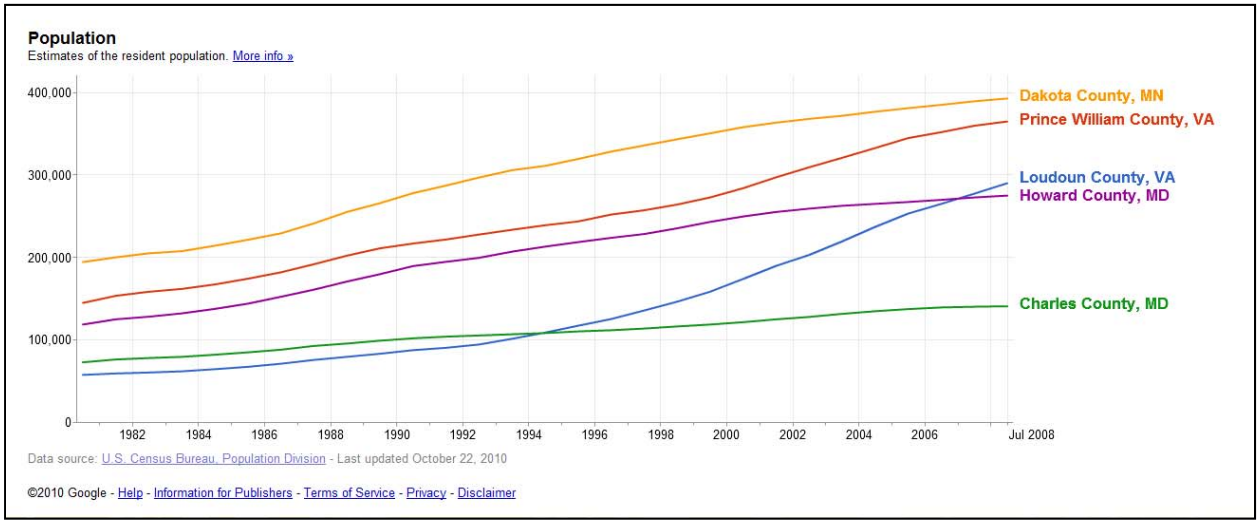
Figures 3-10 and 3-11 present recent population trends of these two sets of peer systems over the past 26 years. Loudoun County has a lower population than the express/commuter peer systems, but has experienced a higher growth rate that puts its 2010 population close to the populations of Prince William County, VA and Dakota County, MN. For the local route analysis, Loudoun County's 2010 population is in the middle of the peer systems.

Figure 3-10: Population Trends for LC Transit Peer Systems



** GRTA population data not shown for GRTA operates in multiple counties, as opposed to the other peers that provide express/commuter services in just one county.*

Figure 3-11: Population Trends for VRT Peer Systems



Figures 3-12 and 3-13 present a comparison of county population and population densities for the two sets of peer agencies. Population characteristics were not included for GRTA in Atlanta, GA, since GRTA's service area covers multiple suburban counties. Loudoun County's population and population density are slightly lower than the average of the peer systems for both sets of peers.

Figure 3-12: Comparison of County Populations and Densities - Commuter Routes

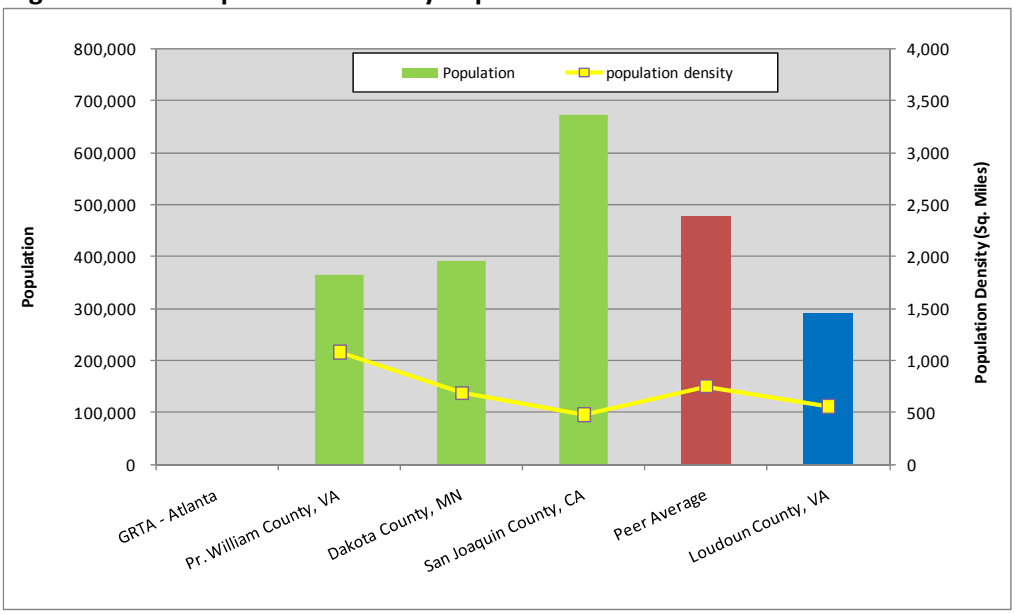
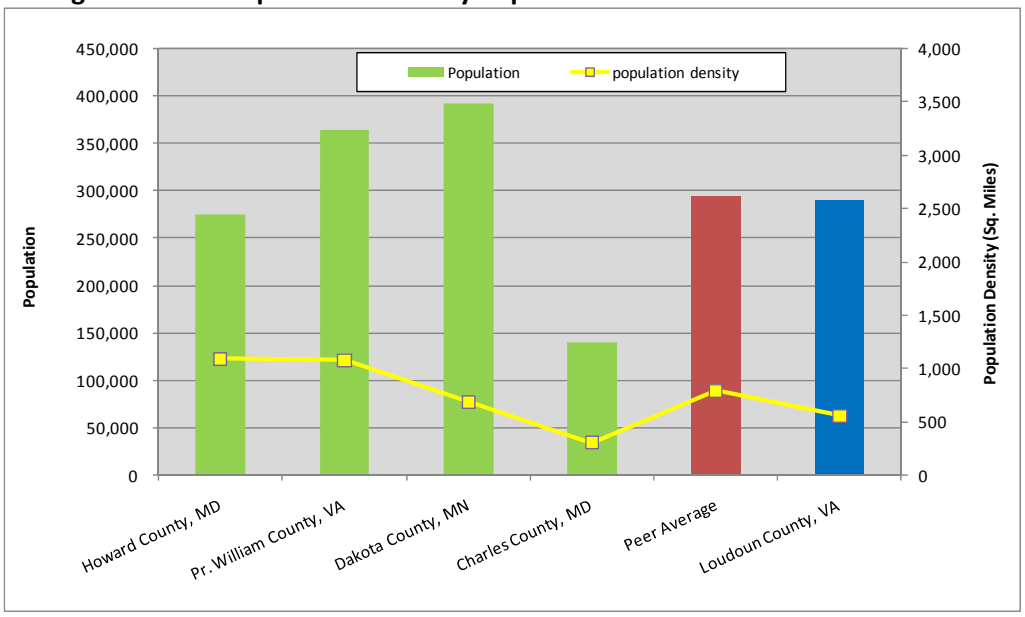


Figure 3-13: Comparison of County Populations and Densities - Local Routes



3.2.3 Service Level Comparisons

Figures 3-14 and 3-15 present a comparison of bus service hours per capita for both the commuter/express and local route peer systems. As noted in these figures, the level of commuter bus service provided by LC Transit and the level of local bus service provided by VRT is lower than the peer systems (GRTA was not included in the commuter route peer comparison because GRTA provides service to more than one county).

Figure 3-14: Comparison of Revenue Hours per Capita – Commuter Routes

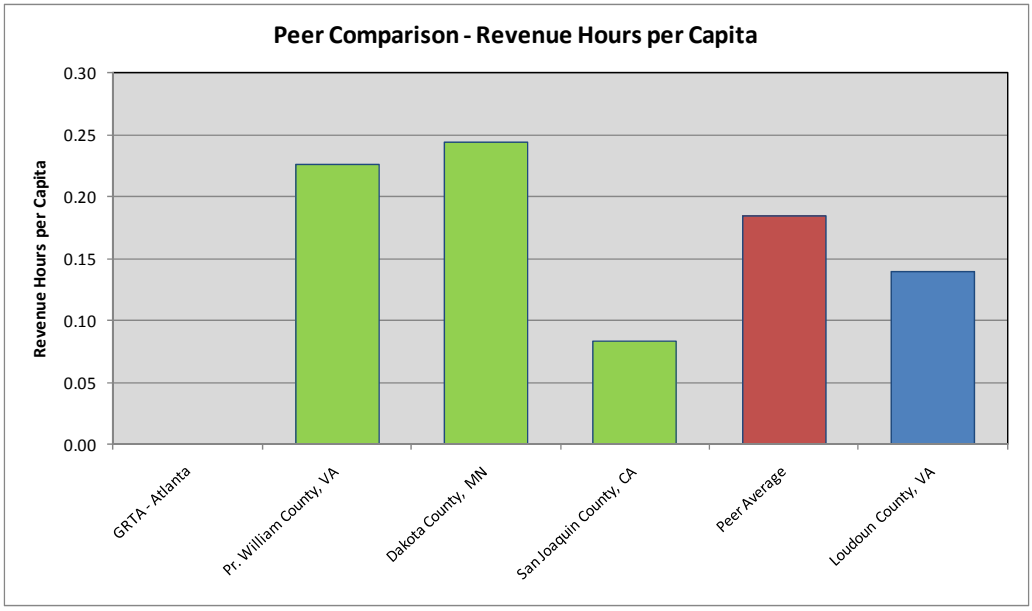
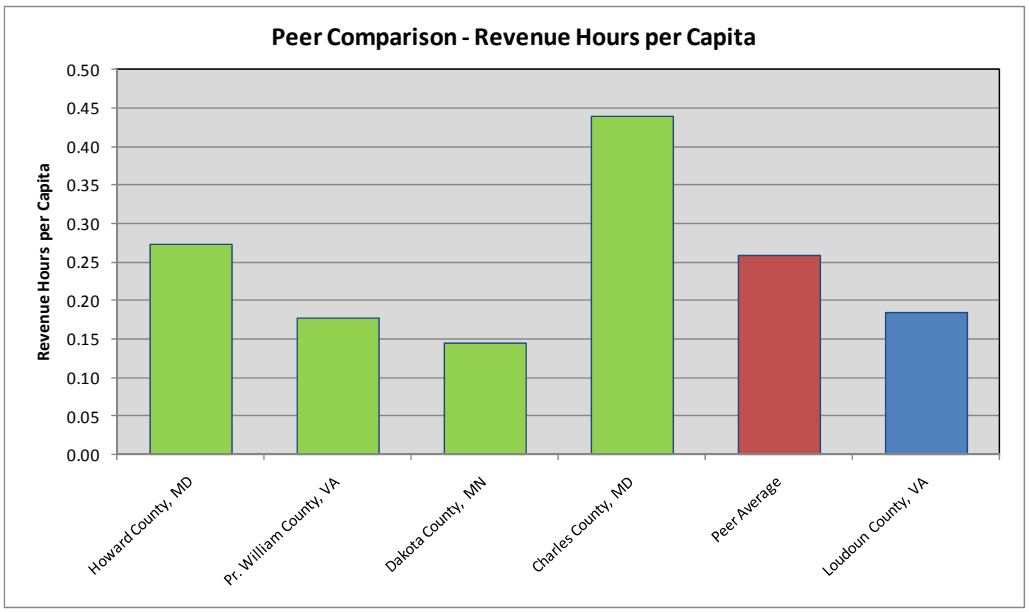


Figure 3-15: Comparison of Revenue Hours per Capita – Local Routes



3.2.4 Ridership Productivity

Figures 3-16 and 3-17 present a comparison of ridership per revenue bus-hour for both the commuter/express and local route peer systems. As noted in Figure 3-16, ridership on LC Transit's commuter routes is above the peer average on a revenue hour basis. VRT's local route ridership productivity, however, is below the peer system average, as shown in Figure 3-17. It is important to note that ridership per revenue hour is strongly influenced by the length of bus routes. For example, an express trip with a 90-minute travel time 50 passengers has 33.3 passengers per revenue-hour, while another express trip with a 60-minute travel time and 50 passengers had 50 passengers per revenue-hour. Thus, with the example cited above, both trips have a full load, but the first trip shows up as having lower productivity than the second trip.

Figure 3-16: Comparison of Passenger Trips per Revenue Hour – Commuter Routes

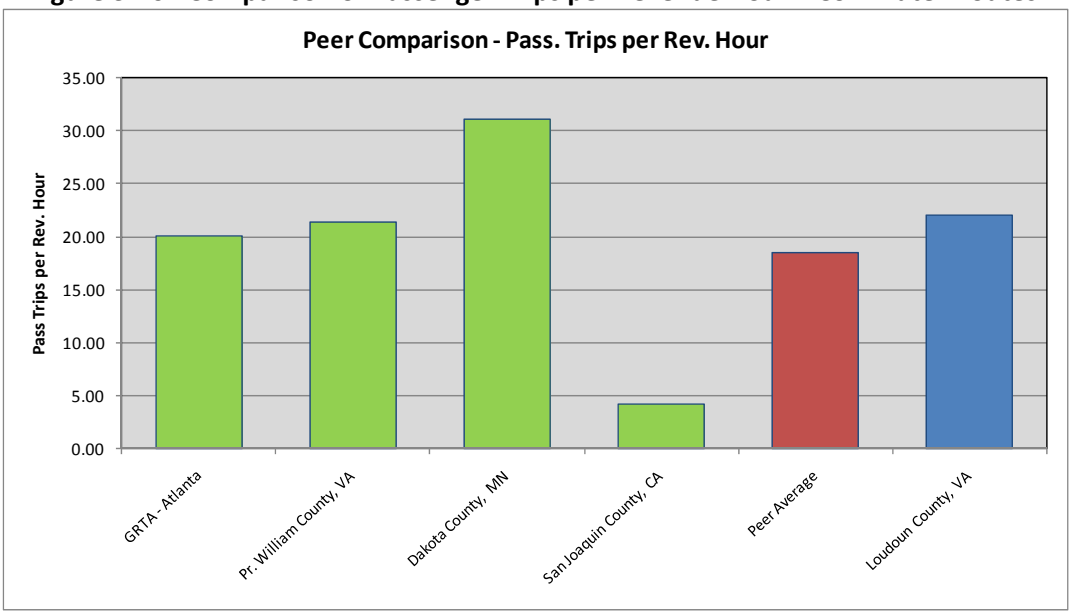
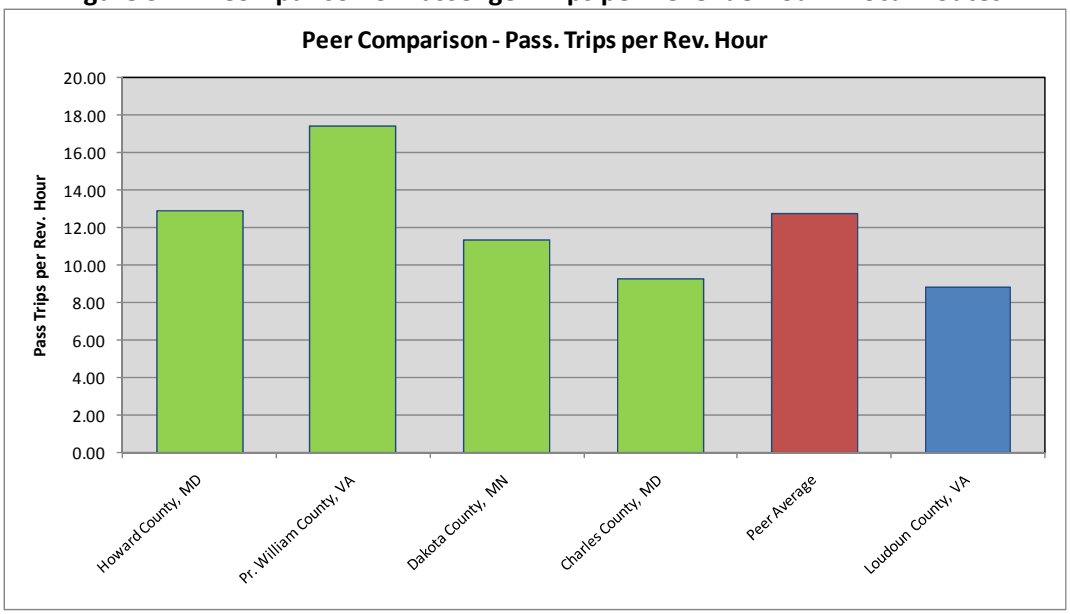


Figure 3-17: Comparison of Passenger Trips per Revenue Hour – Local Routes



Ridership productivity was also evaluated on a per capita basis. Once again, this evaluation is based on total county population. As shown below in Figure 3-18, LC Transit's ridership per capita is very similar to the peer systems (GRTA was not included in the commuter route peer comparison because GRTA provides service to more than one county). VRT local route ridership per capita is lower than the peer average for local systems, as shown in Figure 3-19. This is likely due to the relatively small geographic service area VRT has in Loudoun County.

Figure 3-18: Comparison of Passenger Trips per Capita – Commuter Routes

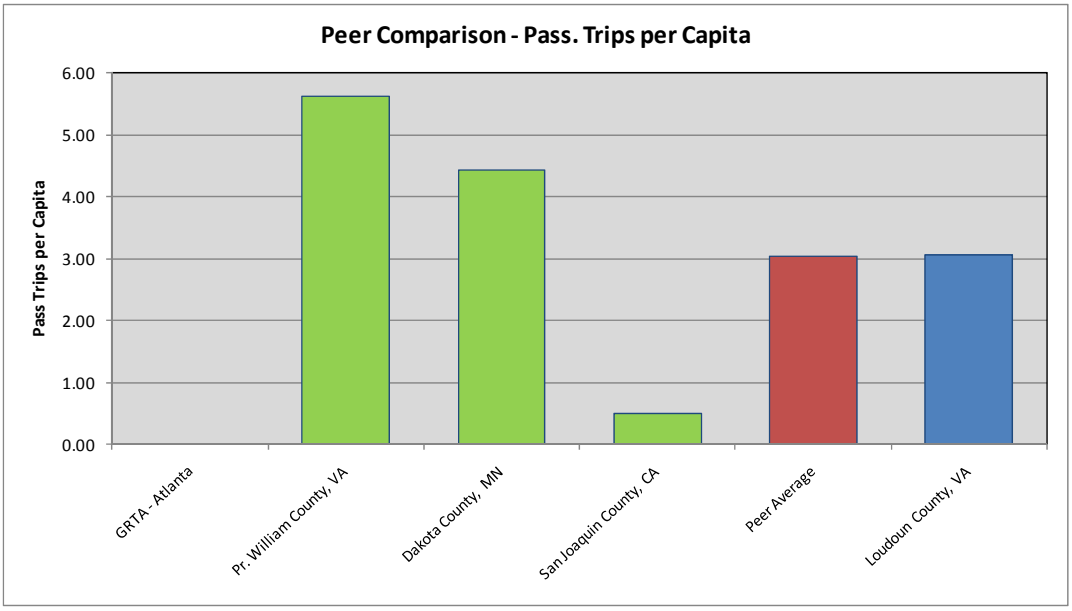
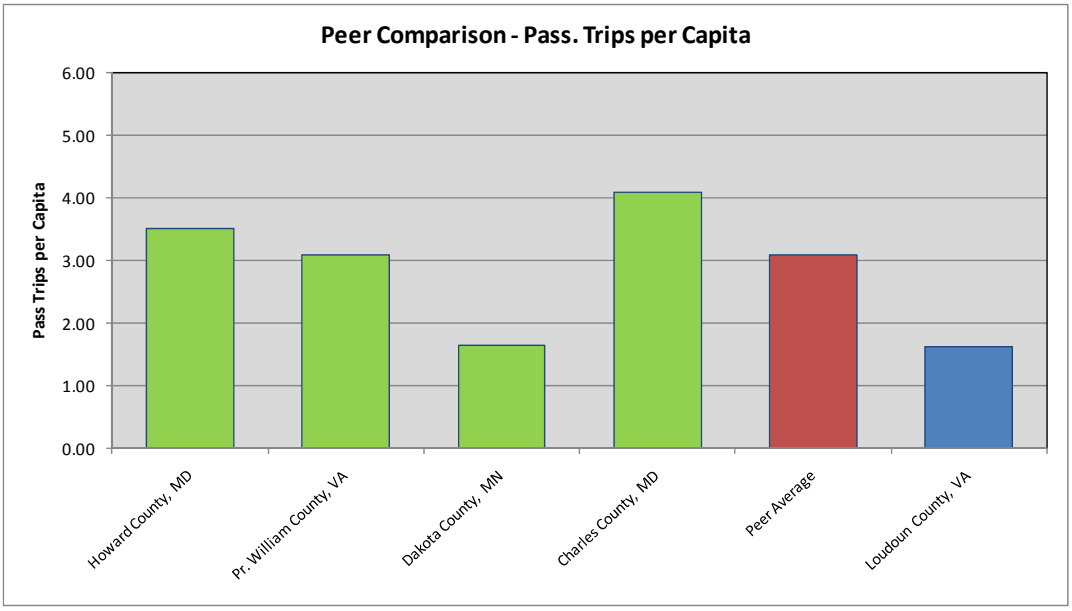


Figure 3-19: Comparison of Passenger Trips per Capita – Local Routes



3.2.5 Cost Effectiveness

Cost effectiveness was measured on a cost per passenger trip and cost per revenue-hour basis. Figures 3-20 and 3-21 present a comparison of cost per passenger trip for both the commuter/express and local route peer systems. As noted in Figure 3-20, LC Transit's cost per passenger trip is lower than the peer systems. VRT's local route cost per passenger trip is very comparable to the peer system average, as shown in Figure 3-21.

Figure 3-20: Comparison of Cost per Passenger Trip – Commuter Routes

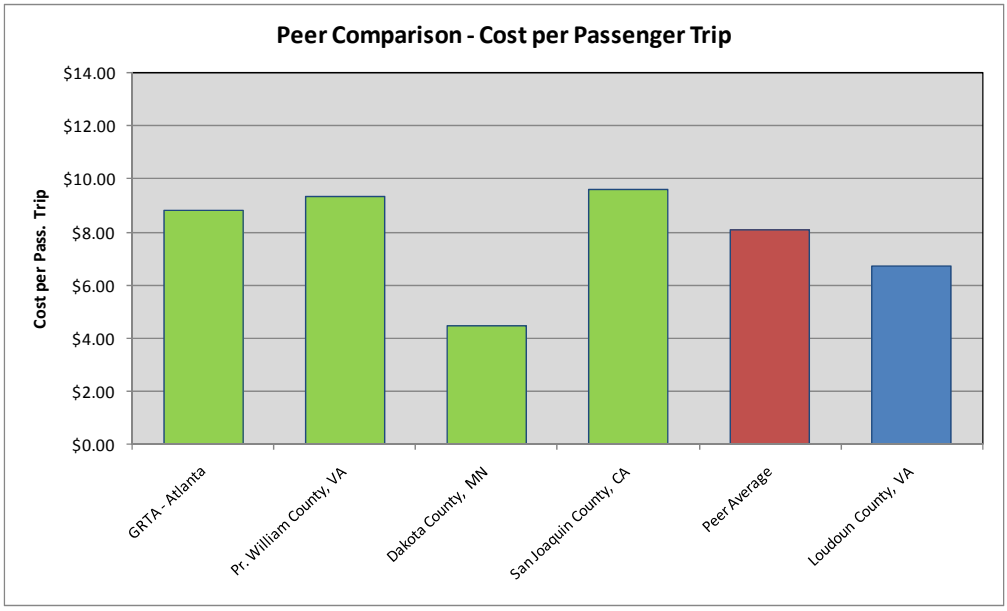
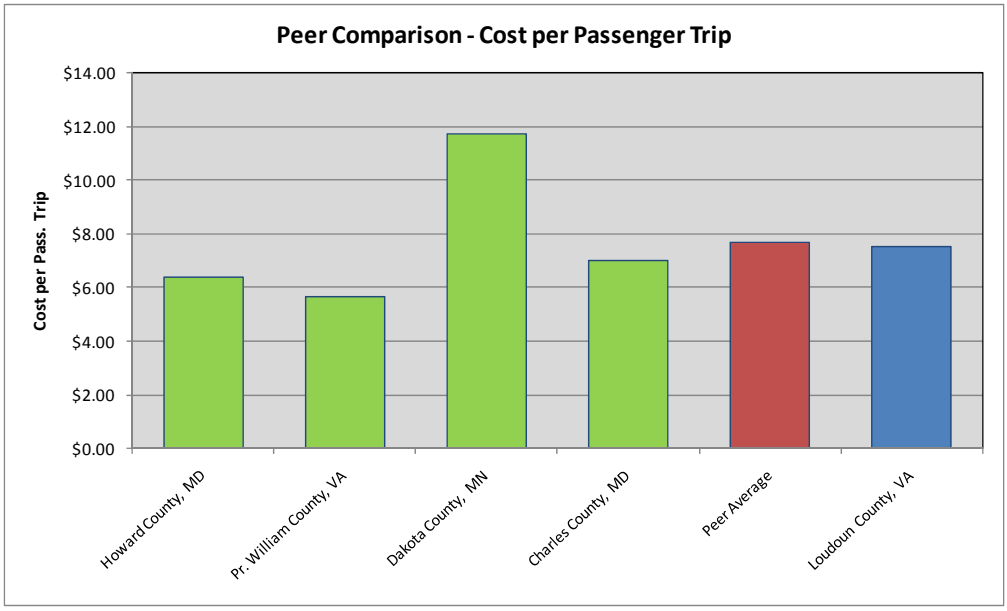


Figure 3-21: Comparison of Cost per Passenger Trip – Local Routes



With regards to cost per revenue bus-hour, LC Transit's hourly cost is very comparable to the peer system average, as shown in Figure 3-22. VRT's hourly cost is quite a bit lower than the local route peer systems, as shown in Figure 3-23.

Figure 3-22: Comparison of Cost per Revenue Bus-Hour – Commuter Routes

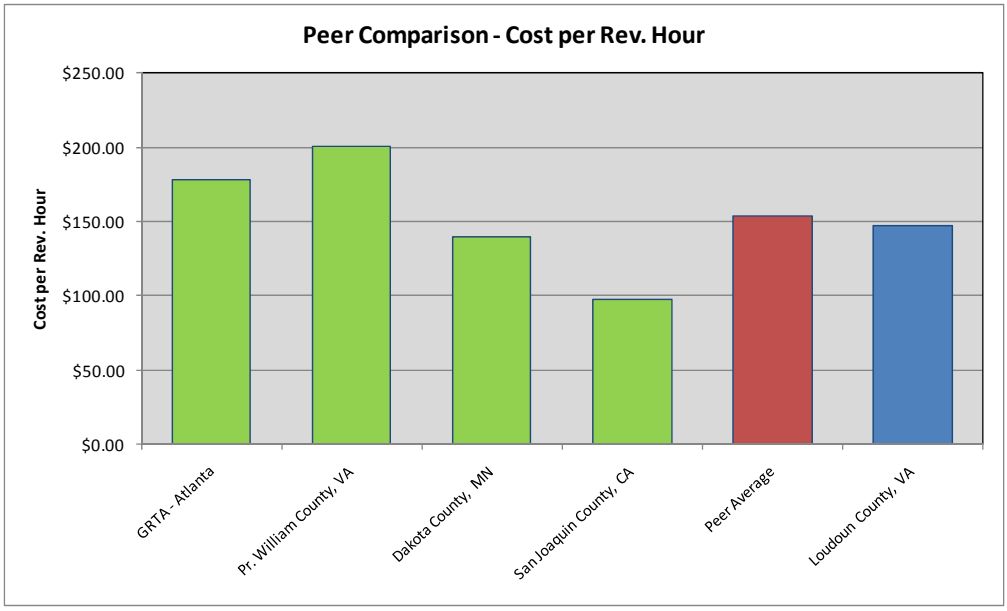
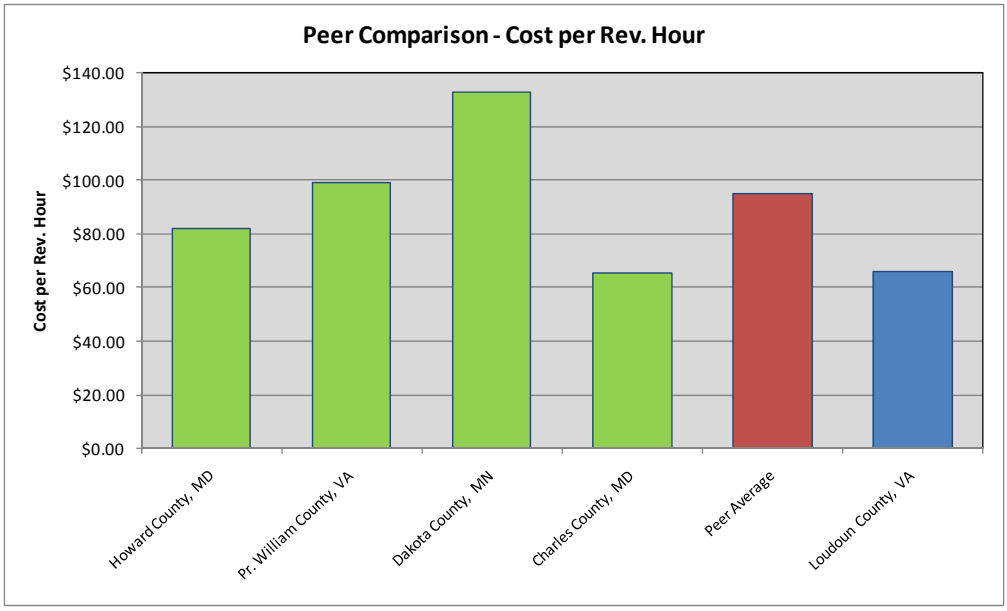


Figure 3-23: Comparison of Cost per Revenue Bus-Hour – Local Routes



3.2.6 Peer Review Conclusions

As described in the previous sections, two peer reviews were completed for this TDP. The first peer review compared LC Transit's commuter service to other commuter services in suburban D.C. (OmniRide), Minneapolis (MVTA) and Sacramento (San Joaquin RTD). The second peer review compared VRT's local route service to other local route services in Howard County, MD, Prince William County, VA (PRTC OmniLink), Dakota County, MN (MVTA), and Charles County, MD (VanGo). Again, all data used in this analysis was from the 2009 NTD, with some data segmented between local and express/commuter services by using data available from other sources (e.g., from transit agency service planning documents).

With regard to LC Transit's commuter services, revenue bus-hours per capita were below the peer average, but ridership per capita was similar to the peer average and ridership per revenue bus-hour was above the peer average. With regards to cost effectiveness, LC Transit's 2008 cost per revenue bus-hour was similar to the peer average, but its cost per passenger trip was below the peer average. These results indicate that LC Transit is a well-utilized service and its high ridership results in favorable cost-effective characteristics when evaluating cost on a per passenger trip basis. Farebox data was not available for all the peer systems, but LC Transit also has a very high farebox recovery ratio.

With regard to VRT's peer comparison, revenue bus-hours per capita and ridership per capita were below the peer average. This is likely due to the use of countywide population in the measurements. VRT has a relatively small service area in relation to the entire area of Loudoun County. Ridership productivity (riders per revenue bus-hour) also fell below the peer system average. Although not specifically measured in this analysis, it is possible that some of the peer systems exhibit land use and demographic characteristics that are more favorable to transit than in Loudoun County (e.g., lower income populations and higher population densities than Loudoun County). Cost-effectiveness measures (cost per passenger trip and cost per revenue bus-hour), however, were better than the peer system averages.

3.3 Transit Market Analysis

For the transit portion of the *2010 CTP*, a detailed transit market analysis was conducted. This analysis included baseline surveys of commuter and local fixed route bus riders, addressed various transit market segments, including captive and choice riders, intra-county and regional trips, and existing and future conditions, and also considered the input of the TPAC as described in Section 2.2. This section presents the market analysis as developed for the *2010 CTP*.

3.3.1 Transit Rider Analysis

In 2008, Loudoun County contracted with a private firm to conduct surveys of riders on both the commuter and local fixed route bus systems. The commuter survey was conducted online between February 4th and 15th and the local fixed route survey was conducted on-board over a six-day period in March. Both surveys focused on collecting information to establish a rider profile, typical transit habits and general perceptions of the transit service being surveyed. Survey results are summarized below. The survey reports also are included in Appendix A to this document.

3.3.1.1 Commuter Bus Riders

A total of 718 commuter survey responses were obtained, representing approximately 43% of the daily riders on the dates of the survey (1,650). Most results were reported by three types of commuter bus service:

- Long haul, discussed as Loudoun/Washington, DC routes elsewhere in this TDP,
- Reverse commute, referred to as the West Falls Church Metro Station/Loudoun County route in other sections of this document, and
- Cascades, which other sections of this document refer to the Potomac Falls/West Falls Church Metro Station route.

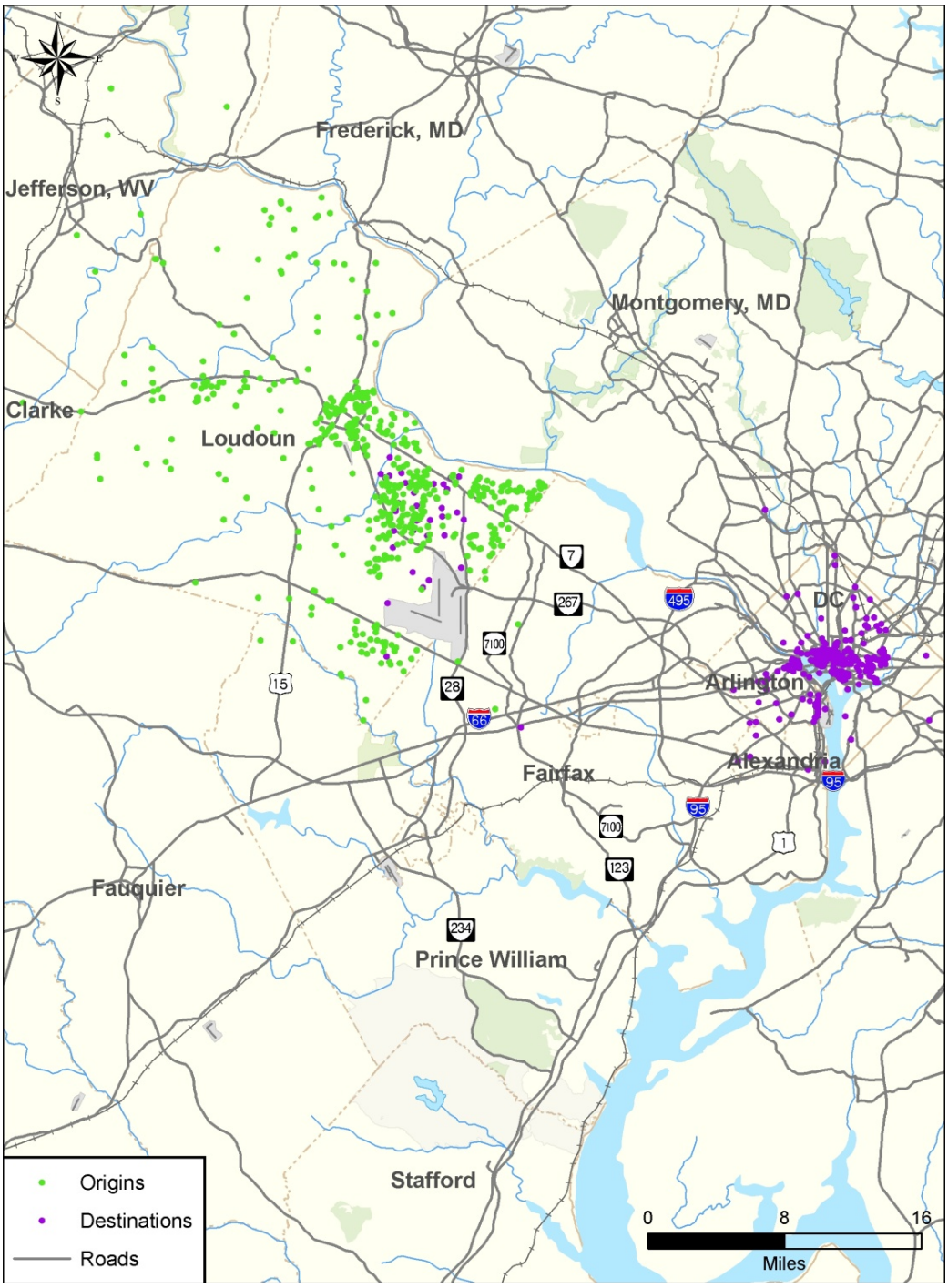
Responses to survey questions included the following data:

Origin and destination: Survey respondents provided general origins and destinations for their trips. Mapping these points made a few trends clear. More than 95% of respondents started their trip from Loudoun County and most of these came from the Leesburg area and east, but there were also riders who originated from western Loudoun. Small shares of riders came from Clarke, Jefferson, West Virginia or Maryland. Destinations for the vast majority of respondents were within Washington, D.C. or Arlington but there were a few connecting to other services in Fairfax, Alexandria or Maryland. Loudoun destinations for the reverse commuters were largely centered in the Ashburn area. Figure 3-24 shows the origins and destinations of commuter bus riders graphically.

Gender: More than half of respondents (54%) reported being male.

Age: The 35 to 49 age category claimed the most respondents (47%) with 50 to 64 being the second most reported age range (35%).

Figure 3-24
Origins and Destinations of Commuter Bus Riders
(From the *2010 CTP*)



Household income: Forty-one percent of respondents indicated their annual household income exceeded $125,000. Another 28% came from households earning $75,000 to $125,000.

Employed by the federal government: More than half of respondents (53%) reported working for the federal government.

Mode of access to bus: The survey design permitted up to two responses to this question. An overwhelming majority of respondents using the long haul service (97%) drove a car to a park and ride facility. Cascade riders divided their mode of access primarily between driving to a park and ride (79%), and walking to the bus pick-up point (36%). As expected, most of the reverse commute riders reported accessing the bus with Metrorail (73%).

Mode of access from bus to destination: Upon leaving the bus, the majority of respondents walked or took Metrorail to their final destination although the distribution between these two modes of access differed by the type of commuter bus service. Most of the Cascades riders (82%) reported using Metrorail to reach their final destination while most of the reverse commute riders (73%) and long haul riders (90%) walked to their final destination.

Schedule convenience: Most riders believed commuter bus hours of operation were convenient, with long haul riders (87%) ranking the schedules as somewhat more convenient than other riders (80-81%).

Reasonableness of fare: Most riders perceived their fare as reasonable with Cascades riders (96%) ranking their fare as more reasonable than reverse commuters (87%) or long haul riders (81%).

Overcrowded conditions onboard: 94% of long haul riders agree or strongly agree that their buses were frequently crowded as compared with 73% of Cascades riders and 20% of reverse commute riders.

Park and ride availability: Most respondents did not report difficulty finding a parking space. Among those who did report parking availability as a problem, 26% were reverse commuter riders, 20% were long haul commuters, and 14% rode the Cascades service.

Fewer stops in DC: The majority of riders across services disagreed or strongly disagreed with the statement that the number of stops in downtown Washington should be reduced, thus indicating general satisfaction with the service configuration.

Satisfaction levels: Respondents' level of satisfaction on nine commuter service elements was gauged using a scale of 1 to 5 with 1 representing 'very dissatisfied' and 5 'very satisfied'. The chart below summarizes the average rating for each question.

Source: Commuter Bus Survey Results, May 27, 2008, Michael Baker Jr., Inc., page 7

Results were positive across the board with ratings ranging from 3.17 (bus shelters/waiting area) to 4.27 (total travel time). At 4.18, overall satisfaction with service achieved the second highest rating. Results for these questions were similar across the different commuter services, but there were some subtle differences. For example, compared to other riders, reverse commuters exhibited a lower satisfaction rating for park and ride lot locations (which are not in Loudoun County) but a higher satisfaction for bus shelters and waiting areas. Consistent with the prior question about fares, Cascades riders were most satisfied with the value of service for the fare paid. Cascades riders also were most satisfied with their connections to other transit.

Why choose commuter bus service over other forms of transportation: The survey asked a series of questions regarding why riders chose commuter bus service and what factors were most influential in their choice to ride. Respondents could choose up to two answers, and the most selected responses were "I can do other things during trip" (46%) and "I do not like to drive in traffic" (40%). Another 34% selected "The bus is faster than driving."

3.3.1.2 Local Fixed Route Bus Riders

A survey of fixed route bus riders was conducted in March, 2008 on the routes operated in Loudoun County by VRT. The survey questions targeted rider and trip characteristics, general transit habits, and perceptions about service. Over a six-day period, 357 surveys were collected.

Responses to survey questions included the following data:

Trip origin and destination: Most respondents reported their trips started at home (60%) and ended at work (39%). The second most reported combination was starting at work (20%) and ending at home (23%).

Mode of access to destination: The survey design permitted up to two responses to this question. About half of respondents answered this question and 2/3 of them reported walking to their final destination. The average walk time was approximately nine minutes.

How long using fixed route service: This data was provided on about half of the surveys, with answers selected from six categories (less than one month, 1-6 months, 7-11 months, 1-2 years, 3-4 years and 4+ years). The most frequently chosen responses were 1-6 months (32.7%) and 1-2 years (29.8%).

Frequency of use: Over half of the riders answering this question reported using fixed route service five days a week, a response rate that seems to correspond with a conventional work week.

How would you be affected if bus service was discontinued: Respondents were divided into groups based on the purpose of their surveyed trip:

Work trip: 34% of respondents answered that they would find an alternative transportation method to reach their destination. Others were nearly equally divided between being unable to work (24%) or would have to find another job (23%). Very few respondents indicated that adjusting work hours or working at home were viable options (7% and 4%, respectively).

Shopping Trip*:* The most popular alternatives amongst respondents were to make fewer shopping trips (37%) or use another means of transportation (29%). The smallest percentage of respondents (6%) suggested they would shop online or through a catalog, suggesting that actually making shopping trips was a necessity for them.

Education Trip: The most frequently stated alternative for respondents traveling to school was to use another means of transportation (31%). Another large percentage of respondents (26%) indicated they would not be able to attend school if transit service was discontinued.

Medical Trip: 45% of respondents stated they would not seek medical attention as frequently if bus service was unavailable. 29% would use another means of transportation to reach medical care. Selecting another physician (9%) or receiving home care (2%) were alternatives selected by relatively few respondents.

Satisfaction with transit availability: Questions related to transit availability focused on service schedules and frequency; respondents could choose more than one answer. Results suggest that about one-third of respondents have the need for increased weekend service (35%) and later hours of operation (33%). About 31% of respondents reported that transit availability met all their needs.

Satisfaction with route coverage: More than half (53%) indicated that route coverage met all of their needs. About 16% reported that they must transfer to other buses to complete their desired trip, and 16% noted their needs were met by the current route coverage.

Satisfaction with other elements of fixed route service: Respondents were asked to rank their level of satisfaction with frequency, reliability, cost, route maps/information and safety. In general, the responses suggested that riders are satisfied overall with fixed route service. Regarding fares, 85% of respondents were highly satisfied. Regarding feelings of personal safety at bus stops and onboard, 68% and 66%, respectively, indicated they were highly satisfied. Highly satisfied responses dropped to 45% for route maps/information, 40% for reliability and 32% for service frequency.

Single, most needed improvement: This question was open-ended, allowing respondents to craft their own answer. If a rider provided more than one response, the first one mentioned was assumed to be the most important. Responses were consolidated into several common themes to enable interpretation. The most commonly identified improvement need was increased weekend service, followed closely by extended AM and PM hours of operation. This suggests service gaps both during the

week and on weekends. Other popular choices included increased frequency to reduce headway times and more reliable on-time service.

3.3.2 Captive Riders

Captive riders are those for whom transit service is the best option for meeting their transportation needs. Most captive riders fall into three broad categories: lower income populations, households without vehicles and persons with limited personal mobility, such as elderly or disabled persons. Both the overall population of these groups and their geographic distribution are important to determine the market for these riders. Information for captive rider populations is only available for recent years, and the travel demand model does not include original data or forecasts on these groups. Therefore, Census 2000 data and 2006 American Community Survey data were used to determine the size and distribution of these populations.

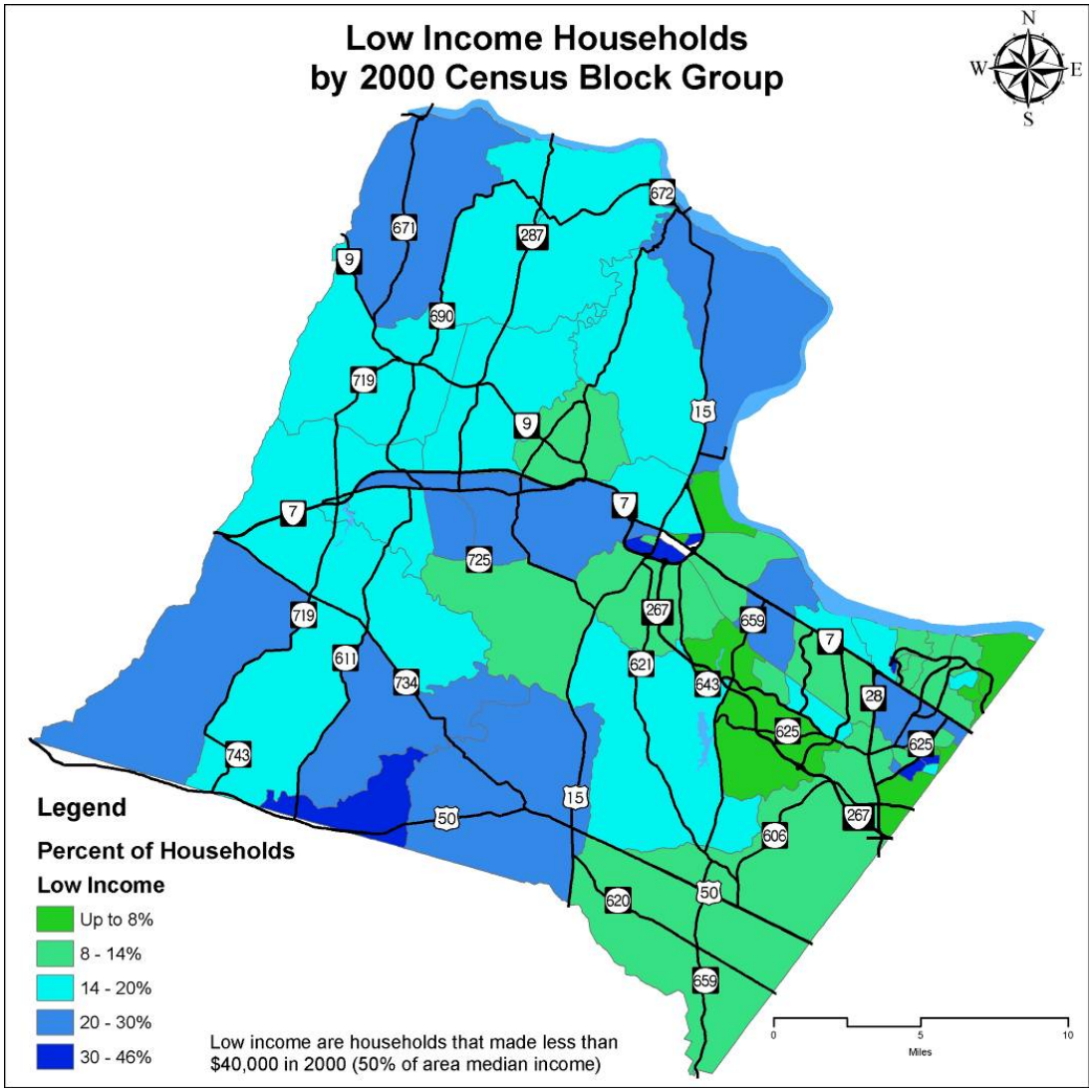
First, when looking at the size of these populations and their changes relative to overall population and household changes, only the low-income household group is a sizeable percentage of the county households or population. In 2000, low-income households, those making less than 50% of the area median income, were 16.3% of all households in the county, and this increased to 19.2% in 2006. Households without vehicles only comprised 2.5% of the county in 2000 and declined to 1.6% in 2006. The elderly population comprised about 5.5% of the county population in 2000 and 5.7% in 2006. Persons with a disability comprised about 9.4% of the county population in 2000, but only about 6.2% in 2006. All of these population and household groups are growing in number, but not all are growing as fast as overall household and population growth. Table 3-2 details the growth for captive rider groups as compared to overall household and population growth in the county.

Table 3-2: Selected Census and American Community Survey Data on Captive Rider Groups in Loudoun County

	Total Households	Low Income Households (<50% of median)	Households with zero vehicles	Total Population	Elderly Persons (65+)	Persons 5+ years old with Disability
2000	59,900	9,784	1,509	169,599	9,344	15,891
2006	83,011	15,972	1,604	268,817	15,385	16,540
Change	23,111	6,188	95	99,218	6,041	649
% Change	38.6%	63.2%	6.3%	58.5%	64.7%	4.1%

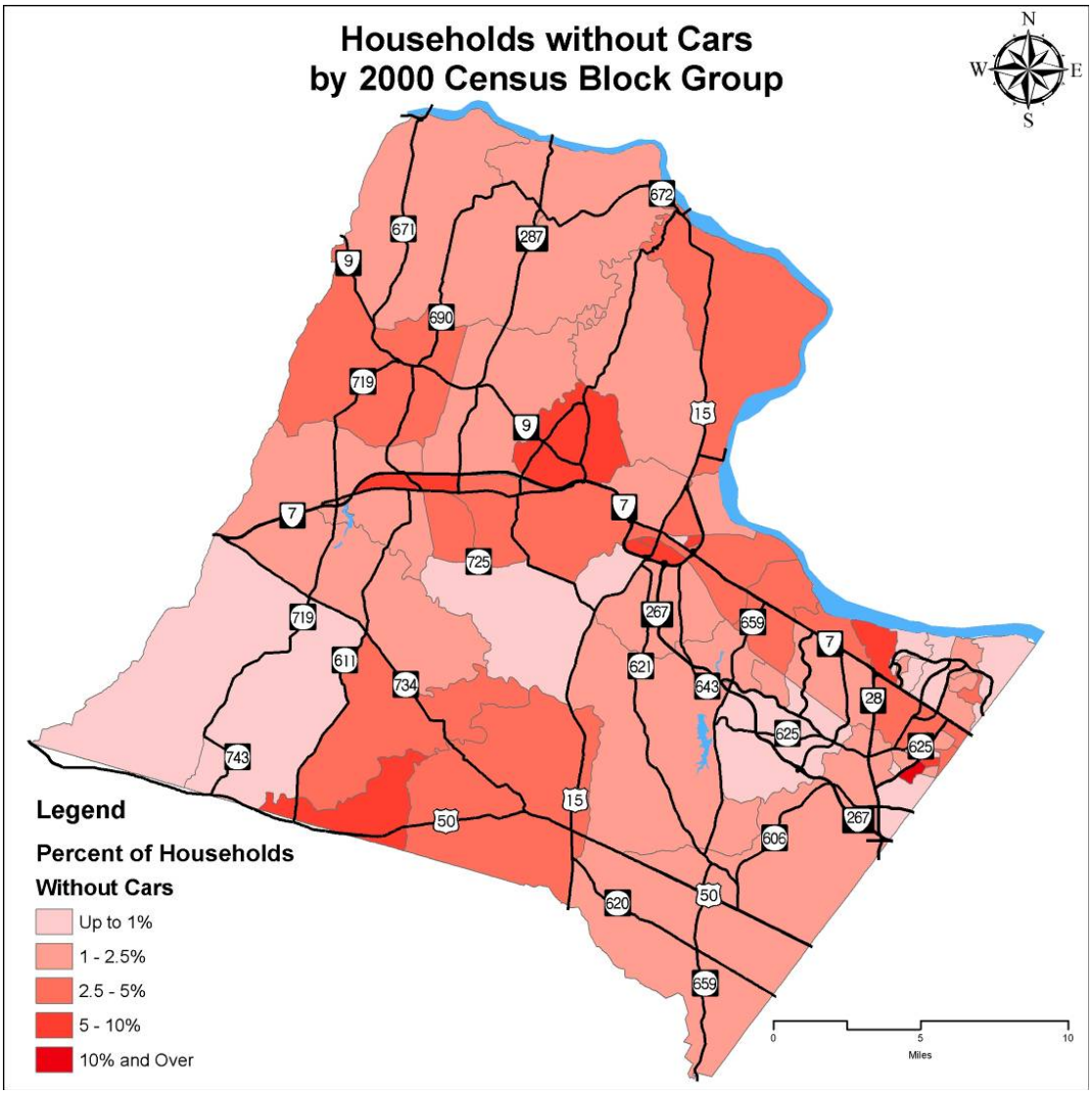
Based on an analysis of block level census data from 2000, there are pockets with a concentration of low-income households within Loudoun County. Census blocks with high concentrations of low-income households include parts of southern Leesburg, Sterling and one area west of Middleburg. Figure 3-25 shows the geographic distribution of low-income households by block group as a percentage of all households.

Figure 3-25


Low Income Households
by 2000 Census Block Group
N
W
E
S
672
671
287
9
690
719
9
15
7
7
725
719
267
659
7
611
621
734
643
28
625
625
743
15
50
267
606
620
50
659
Legend
Percent of Households
Low Income
Up to 8%
8 - 14%
14 - 20%
20 - 30%
30 - 46%
Low income are households that made less than
$40,000 in 2000 (50% of area median income)
0
5
10
Miles

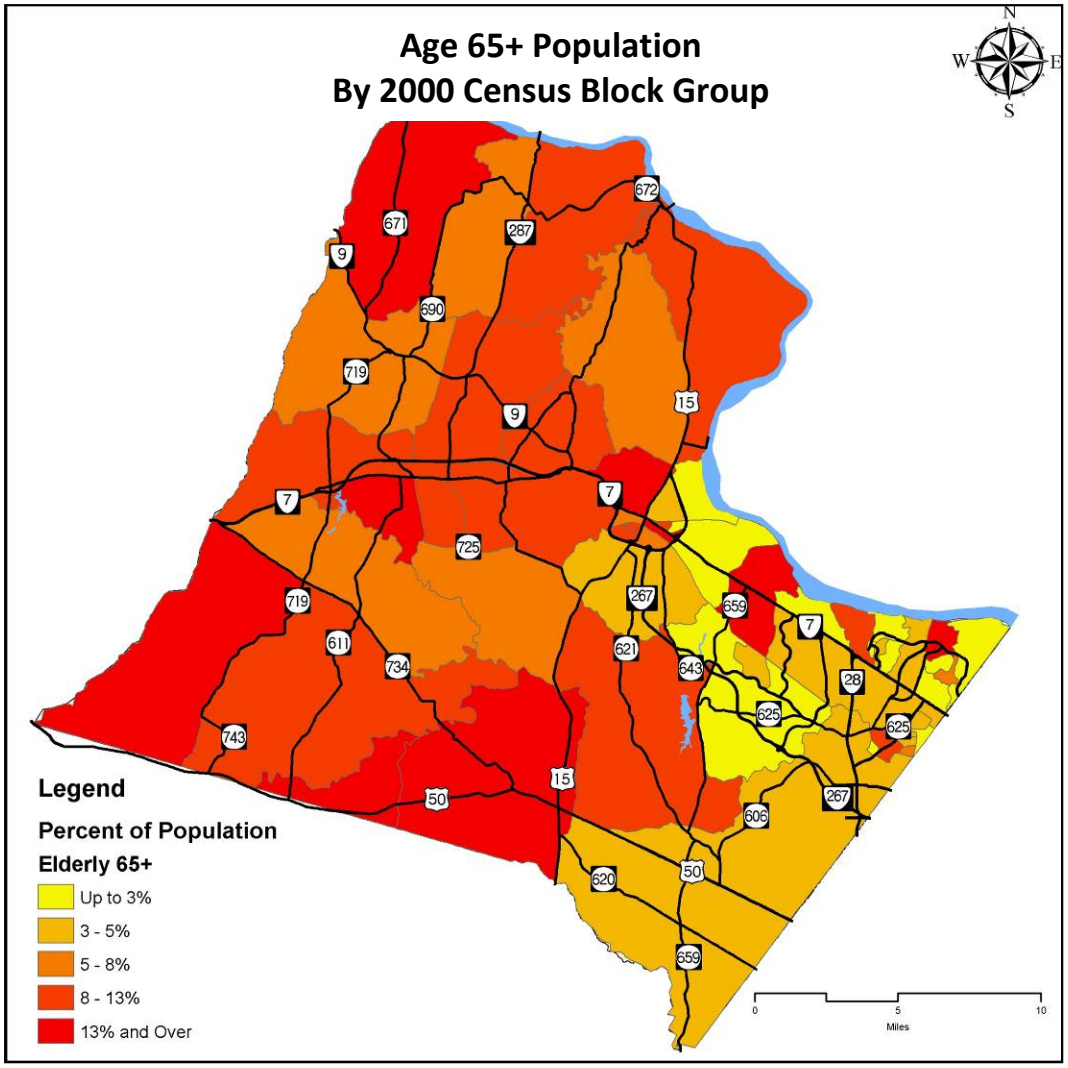
Households without vehicles show some similar patterns in their distribution. As seen in Figure 3-26, there are concentrations of these households in the Sterling area, southern Leesburg and just west of Middleburg. Additionally, there are concentrations in the Purcellville area and along Route 9 near its intersection with Route 7. In all these areas, between 10% and 15% of all households have no vehicles.

Figure 3-26



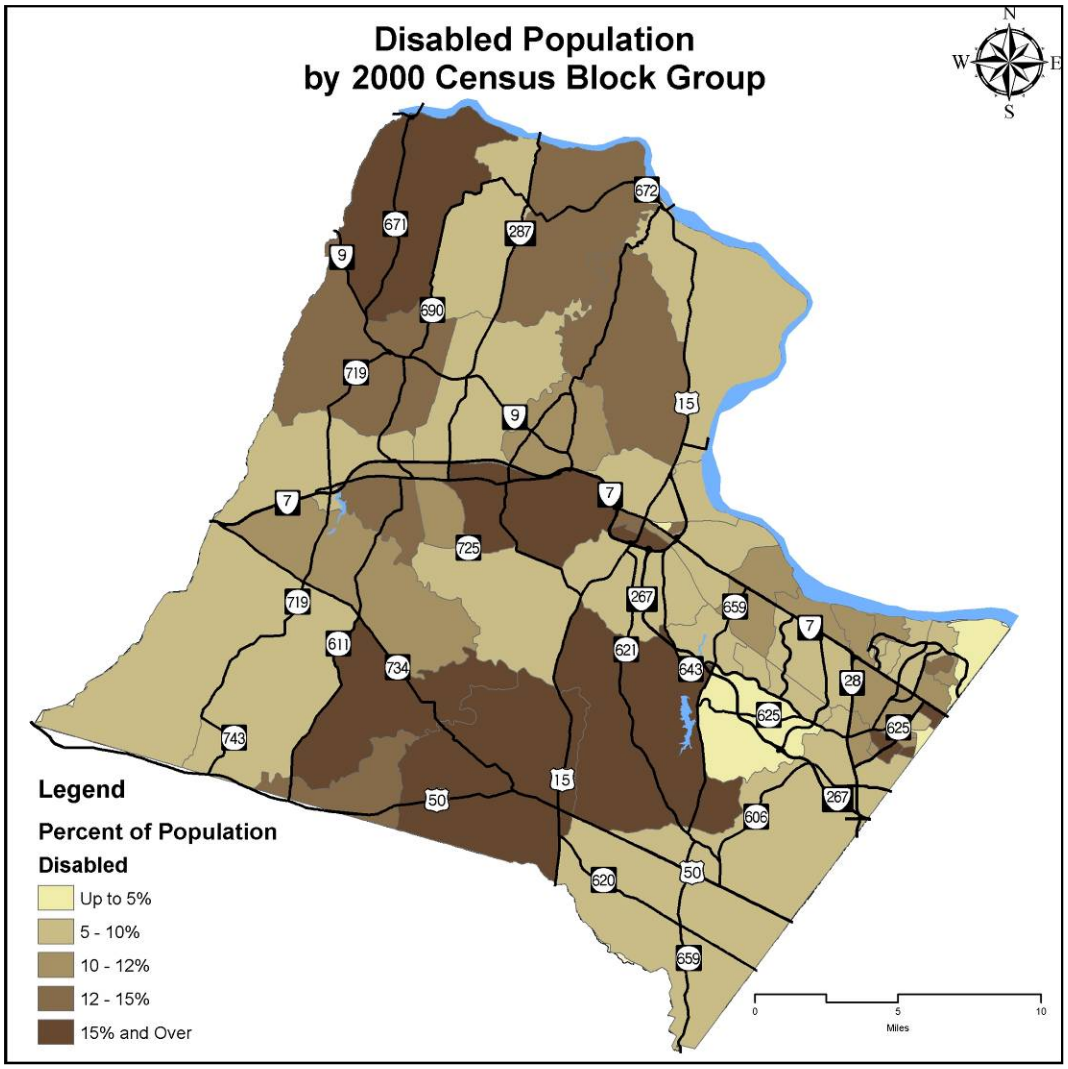
Overall, census blocks with the highest percentage of populations age 65 or older tend to be in western Loudoun County, as seen in Figure 3-27, but there are pockets with a high concentration of elderly populations along Route 7 in eastern Loudoun. The prevalence of age 65+ populations in the western portions of Loudoun County makes it difficult to serve this population properly, as the population densities are much lower in this section of the county. Those populations in Leesburg and along Route 7 would be much easier to serve, given the higher population density and existing bus services in the area.

Figure 3-27



The patterns of the disabled population present similar problems for the provision of transit services. As seen in Figure 3-28, the highest concentrations of persons with disabilities are in Leesburg, Hamilton, northwest Loudoun, southern Loudoun and some pockets in the Sterling area. Many of these areas have low population density and would be expensive to serve with traditional transit.

Figure 3-28



The senior survey and senior input sessions conducted as part of the transit plan portion of the *2010 CTP* in May 2008 provide important insights into senior transit issues from over 100 Loudoun seniors from various parts of the County. Approximately half of the seniors who attended the public input sessions and who completed the survey do not drive, so it is likely that as services improve and expand, there will be a ready supply of willing senior riders, particularly as baby boomers age. Although seniors expressed some frustrations and unfamiliarity with existing public transit options, they also expressed a desire to use public transit if it is simple, and goes where they need it to go. Many felt that public transit workshops aimed at training seniors about available transit options would be a tremendous benefit to

residents. Thus, there appears to be unmet demand for transit service among many seniors in Loudoun County.

A number of additional age restricted communities and assisted living facilities are expected to be built in Loudoun County in the coming years. In total, over 4,000 additional units of housing, specifically restricted to persons over age 50, have been approved through the rezoning process, but are not yet built. Most of these developments are expected in the eastern half of the county, with the largest communities expected in Brambleton and Ashburn. While many of these units are for "active adults" who would not fit the typical profile of "captive riders" the addition of this many units suggests that the market for fixed route transit will likely increase. At least some of these communities will include captive riders, and the need for transit services among the population of these new communities will increase over time.

Overall, captive riders are not a very large portion of the Loudoun County population; however, low income households do appear to be on the rise and elderly households will increase in the future as new county residents "age in place" in Loudoun County. Concentrations of some of the captive rider groups are in parts of the county underserved by the existing transit routes, such as the concentration of low-income households, households without vehicles and elderly populations in areas in and west of Middleburg. Additionally, much higher proportions of the population in western Loudoun are elderly, but this section of the county has low population density relative to eastern Loudoun. Yet, with the number of new senior and "active adult" communities coming to the eastern part of the county, the potential need for fixed route services will likely increase. Finally, a survey of seniors indicates there is unmet demand for transit services, especially in the off-peak period.

3.3.3 Choice Riders

Choice riders are those for whom transit service represents one option they can choose for meeting their transportation needs. These riders might use their personal automobile for some trips and transit for others depending on their needs, the service provided, time or cost savings, and other factors.

As previously noted in Section 3.2 of this TDP, an online survey was completed of Loudoun County commuter bus riders as part of the transit plan portion of the *2010 CTP*. The survey illustrates that the majority of riders are within the 35-49 age cohort, have an annual household income greater than $75,000, and that over half of all survey respondents are employed by the Federal Government (53%).

Survey respondents were questioned about their reasons for using Loudoun County commuter bus services. The leading reason given by respondents for all three services indicated that they used the bus services because they were able to do other things during the commute. Other commonly cited reasons for using the bus services were the increased costs associated with driving and overall traffic congestion. With these last two factors expected to worsen in the future, the market for commuter bus service in Loudoun may increase.

The ridership survey also collected information regarding how various factors or changes would potentially affect ridership. Respondents indicated that they would ride the bus services less if the fare was increased by 25%, increased by 50%, or if they had the ability to telecommute. The only factor indicating that respondents would be more likely to use public transportation is if tolls on the Dulles Greenway were increased by 50%. As tolls on the Greenway are expected to rise up to 60%, from the

current $3 maximum up to a maximum of $4.80 by 2012, more choice riders may use the bus services to avoid the tolls.

Interestingly, more than half of respondents indicated that bringing rapid transit (Metrorail) to Ashburn would have no impact on their decision to ride the bus. About a third indicated they would be less likely to ride the bus, while about 10% would ride more if rapid transit came to Ashburn. Reverse commute riders, however, responded differently than most, with nearly half indicating they would ride the bus more with rapid transit service to Ashburn. Even fewer riders indicated that rapid transit to Reston would affect their use of commuter bus services. These data suggest that choice riders would be unlikely to switch en mass to Metrorail if it comes to Ashburn or Reston.

The survey collected data indicating desired improvements that respondents would like to see made to the existing services. For the Long Haul and Cascades services, the majority of respondents indicated that they would like more buses added to the current service (82% and 70%). The leading improvement requested by respondents using the Reverse Commute service was adding more mid-day service (60%) and this was the second most commonly requested improvement by respondents using the Long Haul (58%) and Cascades (46%) services. Respondents of all three services also indicated that they would prefer more buses in the afternoon and evening. Since a majority of riders believe that the existing bus services are crowded and would like to see additional buses serve the mid-day and evening hours, this suggests untapped market potential for the "shoulders" of the peak period (early and late peak) trips among choice riders.

Lastly, survey respondents provided general origins and destinations for their trips. Mapping these origins and destinations make a few trends clear. For those riders beginning their journey in Loudoun, most come from the Leesburg area and east, but there are many coming from western Loudoun. Small shares of riders come from Clarke, Jefferson, and other areas of West Virginia or Maryland. Destinations for the vast majority of these respondents are within DC or Arlington, but there are a few connecting to other services to access Fairfax, Maryland or Alexandria. Table 3-3 shows the origin and destination of survey respondents by jurisdiction. For those whose destinations are within Loudoun, the reverse commuters, their destinations are largely centered on the Ashburn area. Figure 3-13 (presented earlier in this section of the TDP) shows the approximate origin and destination of all respondents from the commuter survey.

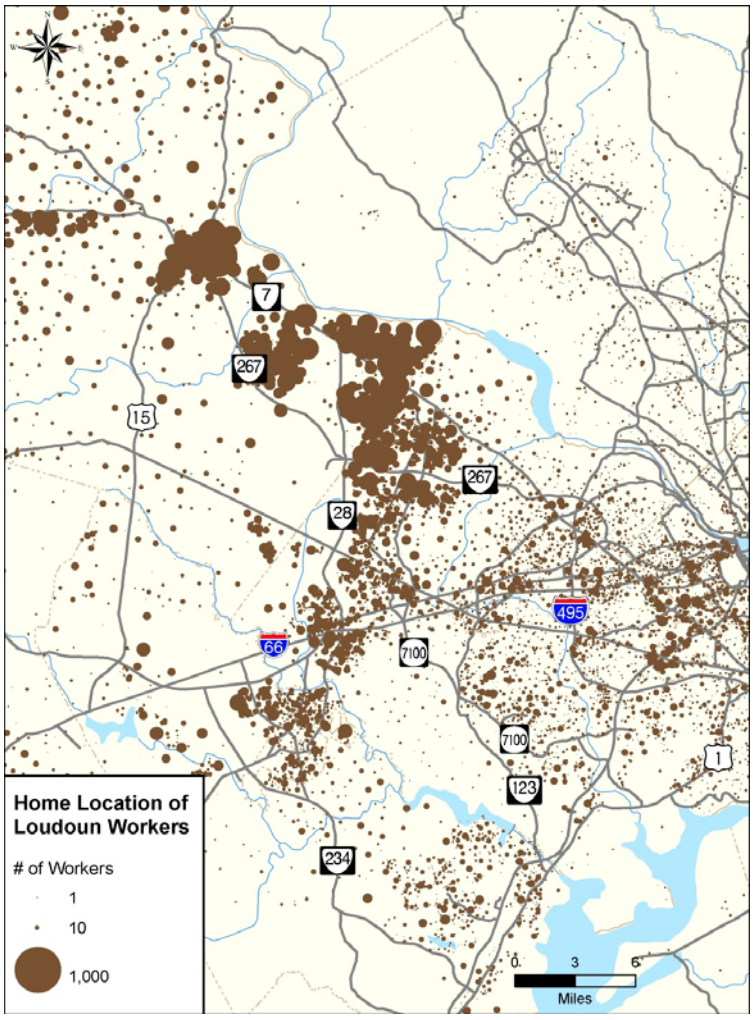
Table3-3: Origins and Destinations of Survey Respondents by Jurisdiction

Origin County	Respondents	Percent	Destination County	Respondents	Percent
Loudoun	644	95.5%	DC	475	75.6%
Clarke	8	1.2%	Arlington	99	15.8%
Frederick, MD	7	1.0%	Loudoun	39	6.2%
Jefferson, WV	5	0.7%	Alexandria	5	0.8%
Fairfax	4	0.6%	Montgomery, MD	4	0.6%
Winchester	3	0.4%	Prince George's, MD	3	0.5%
Prince William	2	0.3%	Fairfax	3	0.5%
DC	1	0.1%			
Total	**674**	**100%**	**Total**	**628**	**100%**

3.3.4 Origins of Loudoun Workers

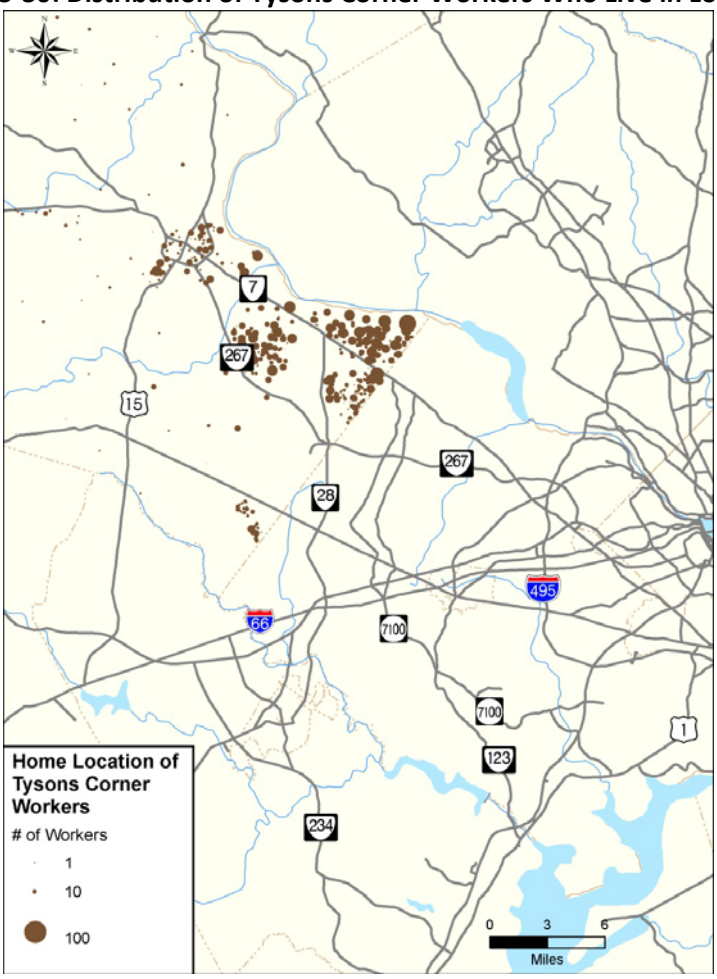
Serving persons who work in Loudoun County is a potential market for choice bus riders, which has been addressed in part by the Reverse Commute bus service. Based on 2004 data from the Census Bureau, of approximately 100,000 workers, only 33% live in Loudoun County, while 23% live in Fairfax. All other workers come from a multitude of jurisdictions in the Washington region, but no other includes more than 10% of workers. Maryland and Prince William County are the third and fourth largest origins for Loudoun workers, at 8% and 6% respectively. As of 2002, only 2% of Loudoun workers came from West Virginia. Overall, these patterns suggest that the greatest potential for developing a market for transit service for workers in Loudoun County is to attempt to increase the percentage of workers who live in Loudoun and Fairfax that commute by bus to work in Loudoun. Looking in more detail at the home origins of the workers, Figure 3-29 shows that many of the Fairfax workers live along the Route 28 and Fairfax County Parkway Corridors. Within Loudoun, workers, like most of the population, are found mostly in the eastern half of the county, particularly in Leesburg, Ashburn and Sterling areas. For those workers from Fairfax that are more dispersed in the central and eastern parts of the county, future Metrorail service to Ashburn may present an opportunity to serve their commutes by providing connecting bus services at the future rail stations in Loudoun to major employment centers in Loudoun.

Figure 3-29: Home Locations of Loudoun Workers



Additional analysis was done of workers in certain activity centers in western Fairfax and who live in Loudoun County, specifically those who work in Tysons Corner. In total, there are more than 7,000 workers who live in Loudoun and work in the Tysons Corner area. Looking at the distribution of these workers geographically, most live in the eastern parts of Loudoun County, in the Sterling, Dulles, Ashburn and Leesburg areas. Given the distribution and total number of people who work in this area, there is a significant opportunity to serve these workers with transit.

Figure 3-30: Distribution of Tysons Corner Workers Who Live in Loudoun



3.3.5 Travel Markets

The market analysis examined travel markets under existing and future (2030) conditions. The travel demand model used for this analysis can provide detailed information on the origin and destination of trips throughout the region by both trip mode and trip type. In looking at just the AM peak period, in 2008, only about 9,000 person trips, less than 1% of all person trips within, to or from Loudoun, were by transit. Additional characteristics regarding these transit trips are as follows:

- About 80% of these were home based work trips, indicating that most morning transit riders are commuters.

- About half of all these trips were commute trips to destinations outside Loudoun, with almost a third of all AM transit trips being commuters going to Fairfax County; just less than a third are commuters within Loudoun County, and less than 2% of AM transit riders are coming into Loudoun from other jurisdictions.

The 2030 situation changes significantly, due in part to major new transit infrastructure. The 2030 model assumes Metrorail to Ashburn and Centerville, light rail from Manassas to Dulles Airport, priority bus service on Fairfax County Parkway and express bus service on I-495. Major highway improvements assumed in the 2030 model are an 8-lane Route 28 from I-66 to Route 606, an 8-lane I-66 from I-495 to US 29 with 2 reversible HOV lanes, an 8-lane I-495 within Virginia plus 4 HOT/HOV lanes.

By 2030, the share of all person trips via transit in the AM will grow to 1.6% (a significant increase in transit trips over existing). Additional characteristics regarding these transit trips are as follows:

- A much larger share of AM riders will come into Loudoun from other jurisdictions; 12% of all AM riders, mostly from Fairfax to Loudoun.
- Trips from Loudoun to other jurisdictions will increase, but not as fast as other types of trips.
- Transit trips made within Loudoun County will be the largest portion of AM transit trips at 45%.
- Looking specifically at home based work trips by transit between Loudoun and other jurisdictions, the share of trips to certain jurisdictions will change dramatically. The share of these trips to Fairfax County will increase markedly, from two-thirds of AM commute trips to 90%; the share of trips to DC and Arlington will decline by about 300%, from 30% of all AM transit commute trips in 2008 to 8% in 2030.

These shifting trends, in terms of the number and percentage of trips between Loudoun and other jurisdictions, reflect changing dynamics in all trips. From 2008 to 2030, the largest increase in auto person trips will be trips within Loudoun, at 85%, followed closely by trips from other jurisdiction to Loudoun, at 61%. Trips from Loudoun to other jurisdictions will only increase by 27%.

Looking more specifically at the market for trips between Loudoun and Fairfax, trips to Fairfax are 40% of all home-based work trips in the AM. In the Dulles and Potomac planning subareas, a majority of these trips are to Fairfax, with nearly 30,000 trips total from the two subareas to Fairfax. Overall, the model predicts an additional 10,000 AM trips via transit from Loudoun to Fairfax. Most of these come from the Ashburn, Dulles and Leesburg planning subareas and are considerable increases over transit trips from the 2008 model. Within Loudoun, the largest increases in transit trips are expected within the Ashburn planning subarea. There is also a sizeable increase in transit trips between Leesburg and Ashburn.

These trends indicate that in the long-term, many more transit riders will need services within Loudoun County and between Loudoun and Fairfax counties. Growing transit services within and between the two counties will be critical to increase the use of transit by Loudoun residents and workers.

3.3.6 Travel Times

Travel demand model output was queried to determine changes in travel times between various activity centers in 2008 versus 2030 by road and by transit. Comparisons were conducted between the following activity centers: Leesburg, Dulles Town Center, Dulles Airport, Tysons Corner and DC. In nearly every instance, the performance of transit as compared to highway travel improves from 2008 to 2030. Much of the improvement in modeled travel times is due to the extension of Metrorail service to

Loudoun County. In 2008, the only trips where transit travel time was less than highway travel time are from Leesburg, Dulles Airport or Dulles Town Center to DC. In 2030, most highway travel times increase, and due to improvements in transit service, reductions in transfer wait times and other factors, all trips to Tysons Corner by transit are faster than by single occupant autos. Improvements in trip times, however, were dramatic, even for those trips where transit travel times are longer than auto trips in 2030. Dulles to Leesburg and Dulles Town Center see reductions in travel time of nearly 50%. Nevertheless, travel times for transit trips internal to Loudoun are still significantly higher than auto trips in 2030; on average, auto trips save more than 50% of the time of a transit trip within Loudoun.

The model assumes that many trips to DC will switch from bus to rail upon the extension of rail service to Loudoun County. The difference between these transit travel times in 2008 and 2030 is rather small. Thus, assuming bus services can maintain their current schedules, the likelihood is that riders originating near the new Metro stops in Loudoun County and bound for DC could switch to Metro, but other riders would continue to use the bus service if available. Furthermore, the model data assumes riders access transit by driving to a station or park and ride. Many of the Tysons Corner-bound trips, therefore, have a driving component. These trips represent a potential market where well-timed bus services, connecting Metrorail stations and surrounding activity centers, could serve trips bound for Metrorail destinations and local destinations.

3.3.7 HOV and Toll Road Network

The existing HOV network in Northern Virginia includes reversible lanes along I-95 /I-395 from the 14th Street Bridge to Route 234 in Prince William County, I-66 from the Theodore Roosevelt Bridge to the Beltway, I-66 from the Beltway to Route 234 in Manassas and on the Dulles Toll Road from the Beltway to Route 28. All of these HOV restrictions currently exist for only the peak morning and evening commute hours. The reversible lanes along I-95/I-395 require three or more persons and all others require two or more persons. Under the MWCOG Constrained Long Range Plan (CLRP), the I-95/I-395 HOV lanes are planned to convert to HOT lanes and extend south of Quantico, to the Fredericksburg area. Additionally, new HOT lanes are planned to be added on the Capital Beltway from the American Legion Bridge to the Springfield Interchange, the I-66 HOV lanes are planned to be extended from Route 234 to US 15 west of Centerville, and new HOV lanes are to be added to the Fairfax County Parkway from the Dulles Toll Road to I-66 and I-95 to Route 636.

The extension of the HOV and HOT network along the Capital Beltway and Fairfax County Parkway will provide new options for transit vehicles to serve circumferential routes to employment centers in the suburbs and could develop an advantage over single occupancy vehicles in terms of travel time. This presents a future opportunity for providing transit services to employment centers in Fairfax County, such as Fort Belvoir.

Currently there is only one significant toll corridor in the Northern Virginia region composed of two separately owned and managed toll roads, the Dulles Toll Road and the Dulles Greenway. This corridor provides access from I-66 just east of the Beltway to Leesburg, with numerous interchanges connecting to major employment centers and Dulles Airport. Along the Dulles Toll Road, from I-66 to the Dulles Airport, airport traffic can pass without tolls. Current maximum toll rates for 2-axle passenger vehicles on the Dulles Toll Road and the Dulles Greenway during congested periods are $1.25 and $5.25 respectively (Dulles Greenway main toll plaza rate during other time periods is $4.50). The current toll rate on the Dulles Toll Road reflects the recent increases implemented to fund Phase I of the Dulles Metrorail project. This was the first toll rate increase since the toll road was built in 1984. While no

specific plan is in place to raise tolls further on the Dulles Toll Road, it may be necessary to ensure sufficient funding for the Metrorail project. The State Corporation Commission granted TRIP II permission to raise tolls gradually on the Greenway from its current $3 rate to a maximum of $4.80 by 2012. Under recently enacted legislation, toll increases on the Greenway beyond 2012 would be limited to the rate of inflation.

There are no new toll roads planned in Northern Virginia according to the MWCOG CLRP or Northern Virginia Transportation Authority plans. Plans are underway, however, to construct a network of High Occupancy Toll (HOT) lanes along I-95/I-395 and the Capital Beltway, as mentioned under the HOV discussion. These lanes would allow HOV-3 or HOV-2, transit vehicles and emergency vehicles to travel freely. Other traffic would pay a variable toll depending on traffic conditions.

These new HOT lanes would potentially cut into the choice rider market among the higher income groups, as they could provide a high quality of service, but at a significant price. Overall, though, as the HOT lane network will not serve the main corridors from Loudoun to the employment centers in DC, Arlington and Fairfax directly, their impact is likely to be less significant to Loudoun commuters. Furthermore, the only toll option in Loudoun County, the Dulles Greenway, could see its rate increase up to 60% in the next four years, discouraging significant growth in its traffic volume.

3.3.8 Parking

While regional data on parking do not appear to be available, there does seem to be a progression over time in which jurisdictions shift from a focus on sufficiency of parking to a focus on management of parking. The latter focus is consistent with transit-oriented development and the use of transit to move large numbers of people, for example in downtown Washington, D.C. and Arlington. Parking management addresses supply, location and pricing. On the home/origin-end of the transit trip, parking supply is important if densities are such that few people can walk to transit. Over time, as suburban areas transition to more urban densities, parking management is important to encourage those walk-to-transit trips that are possible, thereby reducing vehicular travel more effectively.

At the work-end of the trip, parking pricing is an important factor in the behavior of choice riders. The cost and availability of parking directly affect many riders' interest in transit. If a guaranteed ride home program can address common concerns about being "stranded" without a car, the ability to avoid high parking costs and/or the scarcity of parking can be a compelling reason to choose the transit mode. By the same token, the cost of transit trips should take the market price of parking into account to ensure that riders' willingness to pay and the farebox recovery of the transit mode are optimized. At present, it appears that the cost of parking alone is higher than the cost of commuter bus trips to downtown Washington, D.C. This is one consideration in the assessment of the fare and the sustainability of commuter bus service, particularly as Metrorail service becomes available.

3.3.9 Land Use Patterns

Land use patterns from the travel demand model are useful for understanding overall changes in densities of population and employment within the county. These indications of density can help define areas that might become suitable for transit service in the future. Land use analysis from the travel demand model is too coarse, however, to predict with specificity whether a particular area will have sufficient density to support transit.

Population densities in 2010 show that the majority of residents reside in eastern Loudoun County. Transportation Analysis Zones (TAZs), the geographic units used to model travel demand, with the highest population densities are found in the Town of Leesburg. Other areas with high population densities are located along both the Route 50 and Route 7 corridors, primarily east of Gum Spring Road (Route 659), as well as along the Potomac River north of Route 7 and east of Route 15, continuing to the Fairfax County line.

Population densities in 2030 indicate that population growth will predominantly occur in TAZs where existing densities are high. The largest cluster of population growth is forecasted to occur in the TAZ located northwest of the Evergreen Mills Road and Gum Spring Road intersection. While the population density rates for the western portions of Loudoun County also increase, they continue to remain much lower than the density rates found in the eastern portions of the County. Figure 3-31 shows the changes in population density from 2010 to 2030.

The employment density patterns for Loudoun County generally mirror the patterns for population density. TAZs with high employment densities are in the eastern half of the County. While a dense cluster of employment is located in the Town of Leesburg, the majority of TAZs with high employment densities are located east of Gum Spring Road (Route 659). More specifically, TAZs with the highest employment densities are located along the Route 28 corridor, between Dulles Airport and the Route 7 corridor.

Future employment density projections for 2030 indicate that the majority of employment growth will occur in TAZs with already high levels of employment. The majority of employment growth is forecasted to occur in and around the Dulles Airport. TAZs located between Old Ox Road (Route 606) and Gum Spring Road are projected to see the highest rates of employment growth due to the development of Arcola Center. The area along Route 7, midway between the Town of Leesburg and the Fairfax County line, is also predicted to gain large levels of employment growth. Other TAZs expected to see future employment growth include TAZs south of the Route 50 corridor near Dulles Airport, as well as within the Town of Leesburg. Figure 3-32 shows the changes in employment density from 2010 to 2030.

Figure 3-31
Loudoun County Population Densities

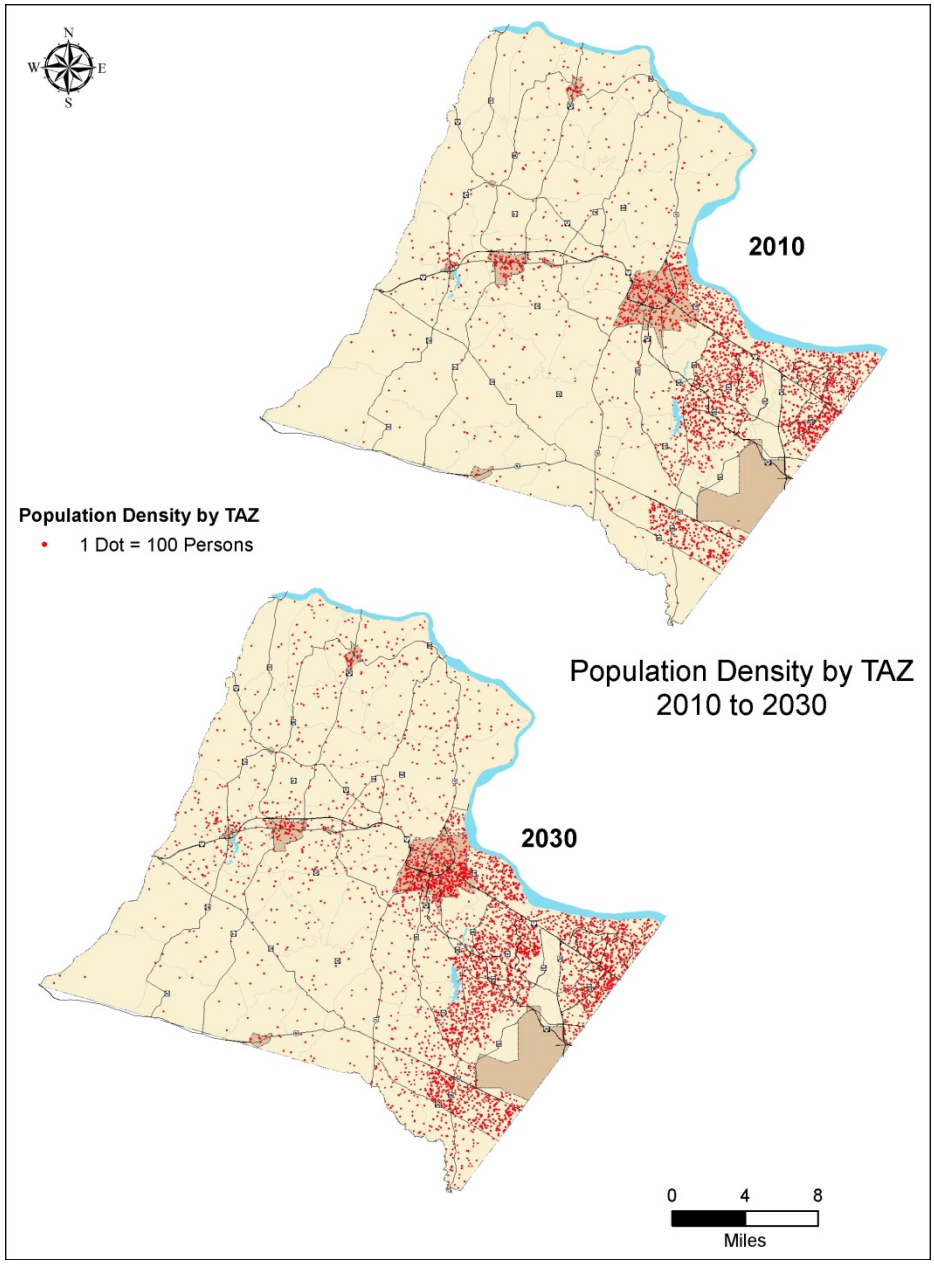
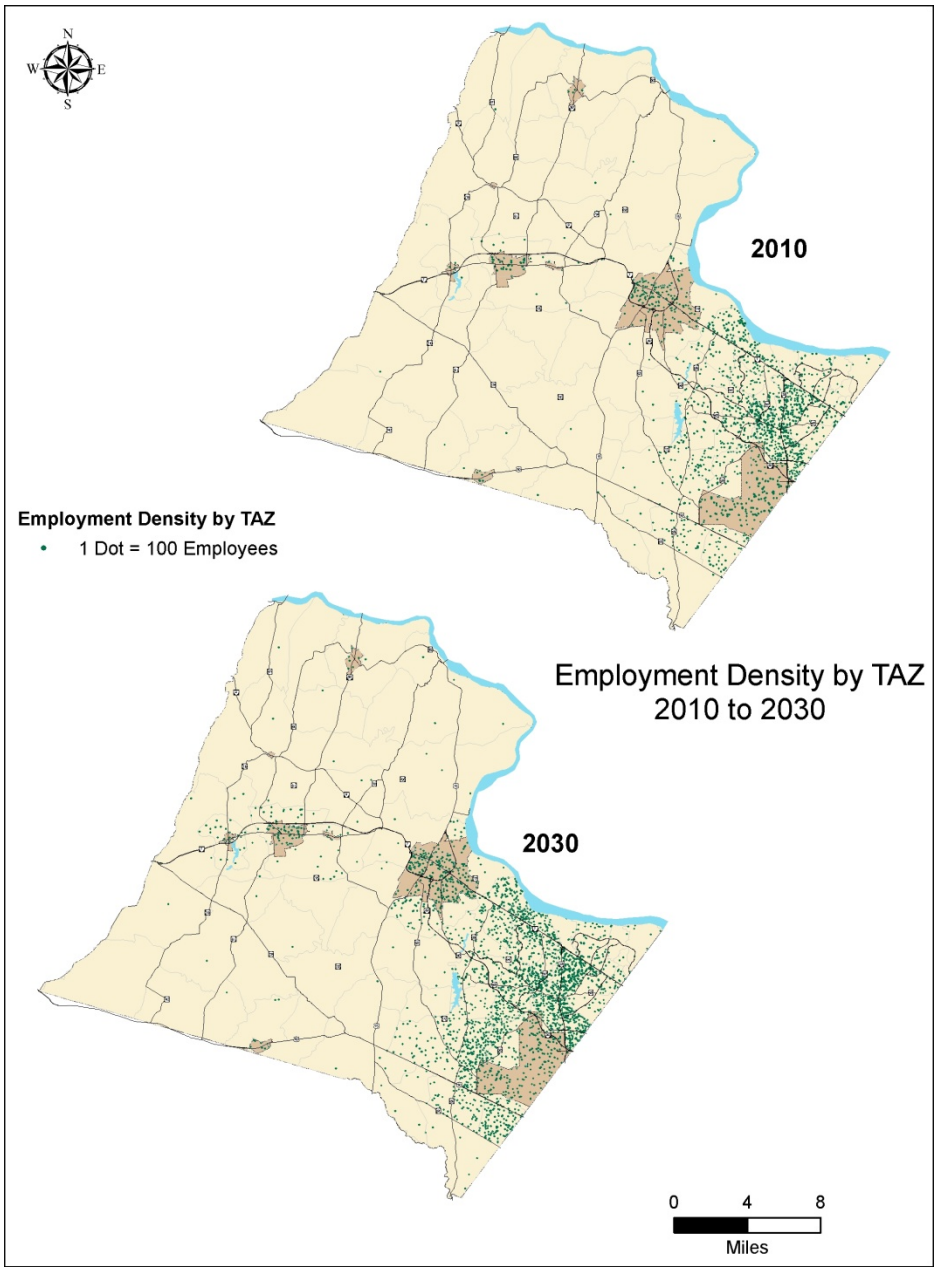


Figure 3-32
Loudoun County Employment Densities



3.3.10 Transit Market Analysis Conclusions

The market analysis conducted for the transit portion of the *2010 CTP* indicates that the most common theme with respect to Loudoun's current transit services is that they should be expanded. This is based on project meetings with the TPAC, the on-board survey and the project website. The majority of comments from the website indicate a preference for additional mid-day service as well as later operating hours on commuter buses departing from Washington, D.C. in the evening. Comments from the fixed route service survey indicate that a large majority of riders wish to have the system operate on weekends and later at night. The TPAC also expressed a desire to see expanded operating hours, as this option received the most priority votes during the work session.

Other common themes that emerged from user comments were complaints about the ability of current services to adhere to the printed schedule and overcrowded conditions during peak demand. Additionally, the TPAC indicated that they would prefer to have bus lanes implemented along major routes as well as improved bicycle and pedestrian access to bus stops to enhance non-motorized travel and safety. Also, as noted in previous sections, more and better transfer opportunities, service to Tysons Corner, and service to commuter rail stations (VRE and MARC) have been proposed by transit users and the TPAC as well as survey respondents.

Beyond the overarching themes identified above, the Market Analysis indicates a number of challenges and opportunities for short-term and long-term enhancements to the transit system. Short-term challenges and opportunities for all types of services include:

- Better communication, including Spanish language information
- Better linkages among existing services in Loudoun and Fairfax
- Providing service on evenings and weekends to meet both captive and choice rider needs
- Improving urban design features, such as street width and bicycle paths, and constructing direct pedestrian routes to transit stops in order to increase accessibility to transit

More service line-specific insights for short-term improvements include:

- Providing additional well-placed transit stops to encourage fixed route transit users to walk to their nearest stop
- Innovative services to reach pockets of low-income households and elderly and disabled populations in western Loudoun County that do not have a vehicle
- Additional transportation options for concentrations of elderly populations along Route 7 in eastern Loudoun and Leesburg, and for highest concentrations of disabled persons found mainly in Leesburg, Hamilton, northwest Loudoun, southern Loudoun, and in some areas of Sterling
- Increasing the availability of transit workshops to provide information to seniors about transit options and increase comfort level and independence with riding transit
- Adding to the commuter bus fleet to decrease crowding
- Offering more off-peak trips for commuter service riders
- Increasing transfer opportunities to service Tysons Corner and service to commuter rail stations, and considering direct commuter service to Tysons Corner

Long-term challenges and opportunities for Loudoun transit services include:

- Assessing the fare and sustainability of commuter bus service, particularly as Metrorail becomes available, taking into account the cost of alternatives (parking, tolls, fuel, etc.)

- Expanding fixed route services to support the future addition of age-restricted communities and assisted living facilities expected to be built primarily in the eastern half of the county
- Increasing commuter transit services to accommodate the expected rise in demand that will result from the increased costs of driving and overall traffic congestion, as well as the time advantages afforded by the planned HOV and HOT networks in the region
- Introduction of Metrorail and connecting bus services for commuters within Loudoun that travel to major employment centers served by Metrorail
- Serving local and regional commuters to Loudoun employment centers with well-connected and well-timed transit options that connect regional and local transit modes
- Looking at the Loudoun-Fairfax travel interactions to determine the most effective role for transit services and how best to structure those services

3.4 County Comprehensive Plan

As touched on in Chapter 2, Loudoun County's Comprehensive Plan consists of the *Revised General Plan* and amendments, specific area plans, strategic plans and the *2010 CTP*. The *Revised General Plan* is the foundation of the County's Comprehensive Plan and is an official public document adopted by the Loudoun County Board of Supervisors. It provides the basis for evaluating land-development proposals and amending zoning and subdivision ordinances to ensure the County's goals are implemented through the regulatory process. The current version of this document is the *Revised General Plan* dated October 16, 2007.

As previously noted, the *2010 CTP* serves as a guide for future infrastructure investment to be financed by federal, state and local funds as well as private sector contributions. The current version of this document was adopted by the Loudoun County Board of Supervisors on June 15, 2010. The *2010 CTP* includes the County's long-rang transit plan.

Chapter 2 of the TDP described goals, strategies and policies of the 2010 CTP. Additional transit related information provided in both the *Revised General Plan* and the *2010 CTP* that is directly relevant to this TDP effort is as follows:

3.4.1 Demographics

Prior to 1960, Loudoun County's population remained in the range of 20,000 to 25,000. The pressure for change that began in the 1960s included population growth in neighboring Fairfax County, sewer service for suburban development in the eastern part of Loudoun County and construction of Washington Dulles International Airport. During the 1960s and in each decade since, Loudoun County's population has increased by at least 50%. The population shift from 24,549 in 1960 to 86,129 in 1990 amounted to 250%. By 2000, Loudoun's population had nearly doubled again.

Over the last 50 years, the number of housing units in Loudoun County increased by almost 1,000%. In 1950 there were fewer than 6,000 housing units, but by 2000, Loudoun could count more than 60,000 units. During the same half century, the number of persons per household started at 3.94 but declined to 2.8 by 1990. More recent data, however, may suggest a shift toward larger households again. In 2000 the County's overall household size was 2.82, but the category of single-family detached homes averaged 3.1 persons per household.

Between 1990 and 2000 the number of jobs in Loudoun County more than doubled, from 40,000 to over 87,000. This almost 120% rise in at-place employment was due to the addition of more than 2,000 new companies.

Loudoun County expects its population, households and employment opportunities to continue their upward trends through 2020. Demographic data from the U.S. Census Bureau and the Loudoun County Department of Management and Financial Services was used to identify population, household and employment growth projections for Loudoun. Those trends are noted in Table 3-4. As reflected in this table, growth is projected over the next ten years in population (30.17%), number of households (32.64%) and most of all, employment (43.22%).

Table 3-4
Existing and Projected Demographic Characteristics for Loudoun County

Year	Population	Households	Employment
2010	288,556	102,692	158,819
2015	322,398	116,506	189,370
2020	375,615	136,209	227,459

Other noteworthy demographic changes occurred between 1990 and 2000 including Loudoun's median age, which increased from 31.5 to 33.6 years and average household income, which grew from $72,433 to $97,987.

3.4.2 Economic Development

During the 1990s, office and industrial land use expanded along highway-oriented corridors, establishing the land-use pattern for future economic development. Route 28 is the major north-south business corridor that intersects with the five east-west business corridors: Route 7, Route 625 (Waxpool Road), Route 606 (Old Ox Road), the Dulles Greenway and Route 50. Route 607 (Loudoun County Parkway) is an emerging north-south corridor, generally paralleling Route 28.

The tourism and travel industry is also a growth sector in Loudoun County.

3.4.3 Land Use

Loudoun County's planning process divides the County into the following policy areas:

- Suburban Policy Area – This area is located in the easternmost portion of the County where most of Loudoun's residential and commercial growth has occurred for the past 20 years. The four communities in the Suburban Policy Area are Ashburn, Dulles, Potomac and Sterling.
- Rural Policy Area – This area includes all of the western part of the County outside of the Towns and associated Joint Land Management Areas.
- Transition Policy Area – This is a distinct planning area intended to serve as a visual and spatial transition between the Suburban Policy Area to the east and the Rural Policy Area to the west. This policy area is divided into six subareas ranging in density from one dwelling unit per 10 acres to two dwelling units per acre, in a village pattern.

- Town Joint Land Management Area (JLMA) – The County works cooperatively within the Towns of Hamilton, Leesburg, Purcellville and Round Hill regarding transportation matters in the unincorporated areas outside the Towns' boundaries known as Joint Land Management Areas (JLMAs).

Figures 3-33 presents Loudoun County's future land use map, as presented in the County's *Revised General Plan*.

3.4.4 Transportation

The *2010 CTP* identifies the following road policies for each policy area:

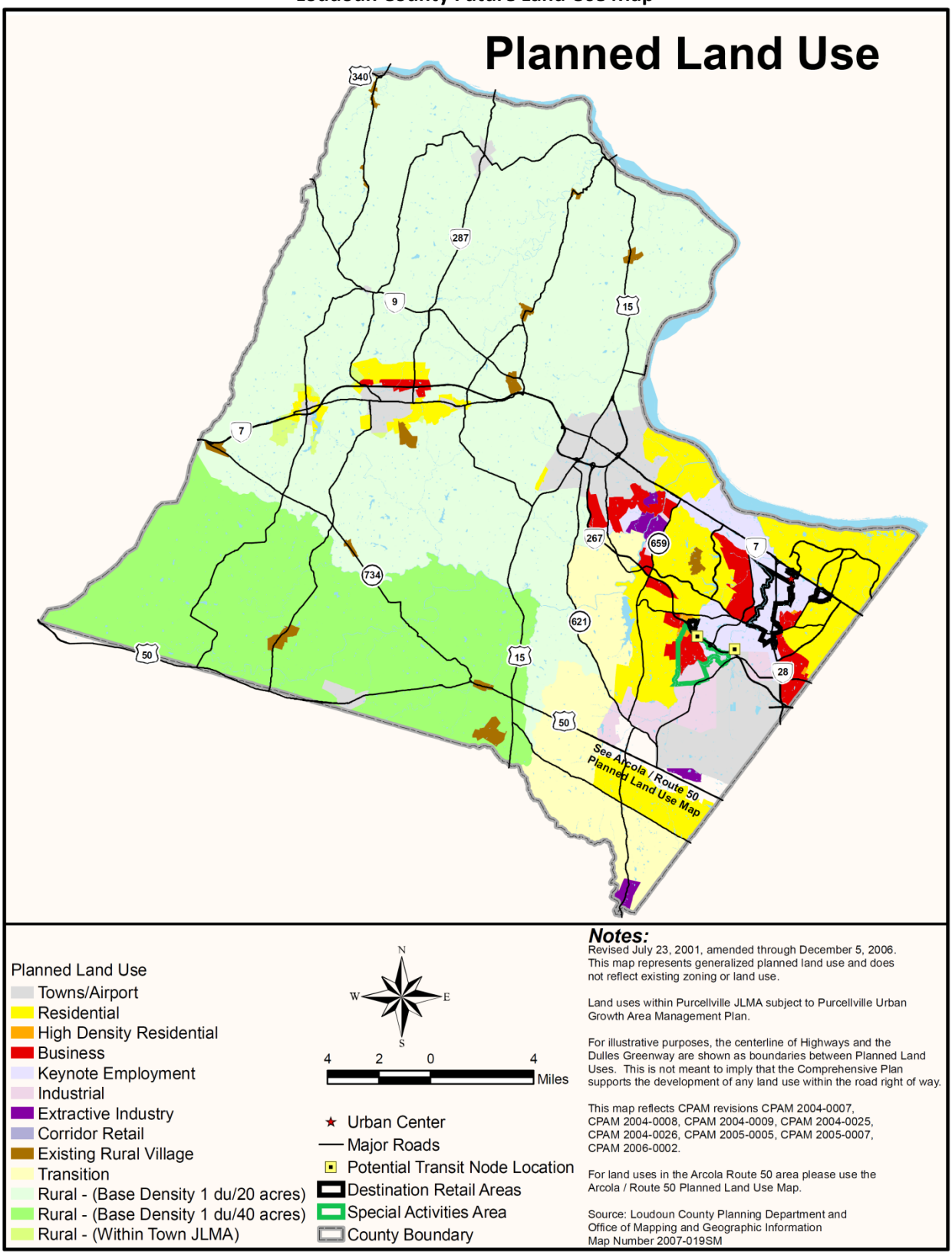
- Suburban Policy Area –Significant roadway improvements are planned for major VA and US routes in the Suburban Policy Area to accommodate anticipated high population and employment growth.
- Rural Policy Area – Unlike the Suburban Policy Area road network, the Rural Policy Area network is largely built to plan. Most roads within this policy area are two-lane shared-use facilities intended to serve rural economic enterprises, low density residential and incorporated towns. A system of scenic roadways has been designated as part of the state tourism program. In limited circumstances in major corridors, Loudoun County has approved road capacity improvements or the study thereof, especially regarding US Route 15 (James Monroe Highway), US Route 50 (John Mosby Highway), and VA Route 7 (Harry Byrd Highway).
- Transition Policy Area – Most of the planned CTP road network within the Transition Policy Area has not been constructed yet and existing facilities are straining to handle current traffic at acceptable levels of service. Future plans include constructing new corridors and expanding existing roadways to their planned conditions.
- Town Joint Land Management Area (JLMA) – With respect to transportation, a significant challenge for the JLMAs is to accommodate population growth and the resulting increase in traffic while maintaining the Towns' historic character.

Loudoun County has worked to improve the pedestrian environment by building sidewalk networks, designing pedestrian-oriented road intersections, and implementing traffic calming measures to encourage walking. The County has also worked to maintain the Washington & Old Dominion (W&OD) Trail and to add new bicycle accommodations. Bicycle and pedestrian facilities are addressed in the *Loudoun County Bicycle and Pedestrian Mobility Master Plan* and the *2010 CTP*.

Air travel is also an integral component of Loudoun County's overall transportation system given the presence of Washington Dulles International Airport and Leesburg Executive Airport.

Loudoun County's existing transit network is described extensively in this TDP. Future transit plans include the Dulles Corridor Metrorail Project, which would extend Metrorail to Loudoun County upon completion. As previously noted, the *2010 CTP* includes a long-range transit plan. This plan is divided into three phases: Phase I represents service recommendations in the near-term, before Metrorail is extended to the Reston area of Fairfax at Wiehle Avenue, Phase II represents the mid-term when Metrorail would be in service to Wiehle Avenue, and Phase III represents the long-term period up to 2030 when Metrorail would be extended all the way to Loudoun County with stops at Dulles Airport, Route 606 and Route 772.

Figure 3-33
Loudoun County Future Land Use Map


Planned Land Use
340
287
9
15
7
267
659
7
734
621
50
15
28
50
See Arcola / Route 50 Planned Land Use Map
Planned Land Use
Towns/Airport
Residential
High Density Residential
Business
Keynote Employment
Industrial
Extractive Industry
Corridor Retail
Existing Rural Village
Transition
Rural - (Base Density 1 du/20 acres)
Rural - (Base Density 1 du/40 acres)
Rural - (Within Town JLMA)
N
W
E
S
4 2 0 4
Miles
Urban Center
Major Roads
Potential Transit Node Location
Destination Retail Areas
Special Activities Area
County Boundary
Notes:
Revised July 23, 2001, amended through December 5, 2006.
This map represents generalized planned land use and does not reflect existing zoning or land use.
Land uses within Purcellville JLMA subject to Purcellville Urban Growth Area Management Plan.
For illustrative purposes, the centerline of Highways and the Dulles Greenway are shown as boundaries between Planned Land Uses. This is not meant to imply that the Comprehensive Plan supports the development of any land use within the road right of way.
This map reflects CPAM revisions CPAM 2004-0007, CPAM 2004-0008, CPAM 2004-0009, CPAM 2004-0025, CPAM 2004-0026, CPAM 2005-0005, CPAM 2005-0007, CPAM 2006-0002.
For land uses in the Arcola Route 50 area please use the Arcola / Route 50 Planned Land Use Map.
Source: Loudoun County Planning Department and Office of Mapping and Geographic Information
Map Number 2007-019SM

3.6 Stakeholder and Public Outreach

As discussed in Section 2.2, the transit plan portion of the *2010 CTP* had an extensive stakeholder and public outreach process. Riders on existing local and commuter services were surveyed to determine rider service needs, public meetings were held and the TPAC was assembled for input into the transit planning process and resulting recommendations. Transit-related plans and policies presented in this TDP are based on work completed in the *2010 CTP*, and thus reflect input received through that transit planning process.

3.7 ITS Projects and Programs

Loudoun County actively incorporates the latest Intelligent Transportation System (ITS) technologies into the commuter bus service. These ITS technologies allow OTS staff to communicate with riders in multiple ways, collect and process fares electronically, and track the buses. Below is a list of these technologies and their uses:

Communications

- **www.loudoun.gov/bus** - The LC Transit website is updated often with ridership stats, schedules, and upcoming special events (such as holiday schedules, inaugurations, known road closure, etc)
- "Bus Biz" – Bus Biz is an email group containing approximately 3500 email addresses. Riders sign up for Bus Biz by sending OTS an email address. Bus Biz is used to email important information regarding the commuter bus service. This information is typically for future events such as upcoming bus stop changes, Christmas tree lighting, holiday service schedules, etc.
- "LC Alert" – LC Alert is a text message/email alert system that is used to broadcast immediate information to riders, particularly if they are waiting at their stop for the bus. Information such as: The bus is 15 minutes late due to traffic or there is an accident blocking traffic and the riders will have to go to another stop to catch their bus, etc.
- Facebook – Facebook is new to OTS and staff is working with the Public Information Office (PIO) in order to learn how to best use this tool.

Electronic Fare Collection

- The Loudoun County commuter buses are equipped with GFI Odyssey electronic fareboxes that accept the SmarTrip card for fare payment. The SmarTrip fare collection system is a regional system that provides a mechanism for riders to pay for bus and/or rail rides in multiple jurisdictions with a single card. The data collected by the fareboxes is vital for staff to use for scheduling, budgeting, park & ride lot capacity management, etc.

GPS Tracking

- Air-Trak GPS devices are currently installed in all of the commuter buses. Air-Trak is a low cost system that allows staff to track the commuter buses in real time or up to 35 days historically. The Air-Trak software provides staff information including whether the bus is on time, on route, speeding, etc.
- Avego FutureFleet is a hardware and software package that will be installed on the commuter buses by June 2011. The FutureFleet software will provide schedule adherence data for staff and real-time passenger information for commuter bus riders. The hardware, a mobile data terminal (MDT) that is installed inside the bus just above the windshield, provides the driver

with real time schedule adherence data. It visually shows the driver if they are approaching the stop too early (Red), on time (green), or late (yellow, gold or brown).

Additionally, OTS staff are researching two other ITS technologies, **bus stop enunciators** and **Wi-Fi**. Bus stop enunciators automatically electronically announce bus stops in advance of arrival, and Wi-Fi allows for wireless access to the internet. Ideally, the bus stop enunciators will integrate with the current GPS devices and public address (PA) systems already installed on each commuter bus. Wi-Fi hardware is already installed on the four buses that operate the Tysons Express service. This hardware provides a mechanism for riders to access the internet while riding to and from Tysons Corner.

4.0 TRANSIT SERVICE AND FACILITY NEEDS ASSESSMENT

This chapter identifies potential transit service and facility needs for Loudoun County. Typically, service and facility / equipment needs are identified based on the evaluation conducted in previous chapters of the TDP, stakeholder meetings and demographic analysis. As previously noted, Loudoun County has recently completed and adopted the *2010 CTP*. This work effort included a detailed assessment of *financially unconstrained* transit service needs in the County. The *2010 CTP* identified these transit and facility service needs for three time periods:

- Phase 1: Pre-Metrorail extension
- Phase 2: Metrorail extension to Wiehle Avenue
- Phase 3: Metrorail extension into Loudoun County (Route 772 Station)

Three types of service improvements were identified in the *2010 CTP*. First, the *2010 CTP* identified the need for continued expansion of commuter service to D.C. until the extension of Metrorail service into Loudoun County. Commuter service is proposed after the Metrorail extension, but at reduced service levels, and under a scenario where farebox revenues cover 100 percent of commuter bus operating costs. Second, the *2010 CTP* identified a need for commuter and express services to/from locations in Fairfax County (e.g., Tysons Corner, Reston and the Herndon/Monroe area). Third, the *2010 CTP* identified continued expansion of local route services that is integrated with Metrorail stations, once Metrorail is extended into Loudoun County.

The extension of Metrorail will have a significant impact on the transit network structure for Loudoun County. Metrorail's extension to Wiehle Avenue is programmed for FY 2014. The extension of Metrorail into Loudoun County is programmed for FY 2017. The extension to Loudoun will result in three stations within the County, the Route 606 station (Dulles North), the Route 772 station, and the Dulles Airport station. It is noted that the Loudoun County Board of Supervisors can opt out of the existing agreement to extend Metrorail into Loudoun County (up to 90 days after completion of Preliminary Engineering, which is scheduled for summer of 2011). However, for the purposes of this TDP, it is assumed that the current agreement remains in place, with Metrorail Service into Loudoun County by FY 2017.

4.1 Loudoun County Transit Service Needs

The following section provides summary descriptions of transit service improvement and facility needs identified in the *2010 CTP*, with additional input/adjustments from OTS staff. An overview of the *2010 CTP* improvements is presented in Table 4-1.

Table 4-1
2010 CTP Proposed Transit Improvements

Route	Existing	Phase 1 Pre-Metrorail Ext.	Phase II Metrorail to Wiehle	Phase III Metrorail to Loudoun
Commuter Routes				
Purcellville	✔	✔	✔	✔
Harmony/Hamilton	✔	✔	✔	✔
Leesburg	✔	✔	✔	✔
Dulles North	✔	✔	✔	✔
Dulles South	✔	✔	✔	Add Rt 50/606 park and ride
Reverse Commute	✔	✔	Phase out as local routes become available	
Ashburn North	✔	✔	✔	✔
Leesburg North to DC		✔	✔	✔
Route 9 Connector		Route goes to Tysons Corner	End at Wiehle Ave Metrorail	End at Rt 606 Metrorail
Cross County Connector		Route goes to Tysons Corner	End at Wiehle Ave Metrorail	End at Rt 606 Metrorail
Lansdowne				✔
One Loudoun Center				✔
Express Routes				
Sterling/Potomac to Fairfax		✔	End at Wiehle Ave Metrorail	End at Herndon/ Monroe Metrorail
Dulles North to Fairfax		✔	End at Wiehle Ave Metrorail	Replaced by Metrorail Service
Dulles Town Center to Fairfax		✔	End at Wiehle Ave Metrorail	Replaced by Metrorail + Atlantic Circ.
Cascades	✔	End at West Falls Church Metrorail	End at Wiehle Ave Metrorail	End at Herndon/ Monroe Metrorail
Local Routes				
Purcellville Connector	✔	✔	✔	✔
7 to 7 on 7	✔	Streamline and extend hours	✔	✔
Ashburn Village Connector	✔	Modify route	✔	✔
Ashburn Farm Shuttle	✔	Modify service plan	✔	✔
Ashburn Farm Connector	✔	Discontinue – see Check Point service under Demand Responsive Transit		
Sterling Circulator	✔	Modify from existing Sterling/Countryside route	✔	✔
Dulles 2 Dulles	✔	Discontinue when Atlantic Circulator and Rt 28 Routes are implemented		
Loudoun County Parkway Circulator		✔	End at Wiehle Ave Metrorail	End at Rt 772 Metrorail

Table 4-1 (Continued)
2010 CTP Proposed Transit Improvements

Route	Existing	Phase 1 Pre-Metrorail Ext.	Phase II Metrorail to Wiehle	Phase III Metrorail to Loudoun
Local Routes (Continued)				
Atlantic Circulator		✔	End at Wiehle Ave Metrorail	End at Rt 606 Metrorail
Pacific Circulator			✔	End at Rt 606 Metrorail
Dulles South Circulator			✔	✔
Inter-County Route				
Route 28 to Manassas		✔	✔	Move airport stop to Rt 28 Metrorail

4.1.1 D.C. Commuter Service Needs

1. Ashburn North – Commuter service already exists in this area of the county (from Russell Branch Parkway and Richfield Way, adjacent to Strayer University). The *2010 CTP* proposes expansion of service to 12 morning and 12 afternoon/evening trips. Service levels are to be reduced once Metrorail service is extended into Loudoun County.
2. *Leesburg North* – The *2010 CTP* proposes a new park-and-ride lot and commuter service from North Leesburg/Route 15. Service levels are to be reduced once Metrorail service is extended into Loudoun County.
3. *Lansdowne* – The *2010 CTP* proposes a new park-and-ride lot and Lansdowne commuter service. This service is not proposed until after Metrorail is extended into Loudoun County.
4. *One Loudoun Center* – The *2010 CTP* proposes a new park-and-ride lot and One Loudoun commuter service. This service is not proposed until after Metrorail is extended into Loudoun County.
5. *Harmony* – Although not specifically identified in the *2010 CTP*, the County is proceeding with design/construction of a new park-and-ride lot in the Hamilton area, near Harmony Church Road. Thus, included in this transit needs list is service from this new park-and-ride lot, with service integrated into existing Purcellville, Leesburg and Dulles North service. Service levels would be reduced once Metrorail service is extended into Loudoun County.
6. *Reverse commute services* – These services are eliminated upon extension of Metrorail service to Wiehle Avenue, and replaced with enhanced local route services from Wiehle Avenue.
7. *Existing Commuter Services* - Until Metrorail is extended into Loudoun County, service levels should continue to be expanded from existing park-and-ride areas, subject to ridership demand and availability of parking space supply. Service levels are to be adjusted once Metrorail service is extended into Loudoun County, based on reduced demand.
8. *Other* – Continue to adjust commuter bus trip schedules as necessary to accommodate demand.

4.1.2 Fairfax County Commuter/Express Service Needs

1. *Cross County Connector* – The *2010 CTP* proposes new Cross County commuter service from the west portion of the County to Tysons Corner. This could be either a new route or extension of the existing Tysons Corner express service that presently begins in Leesburg. This route could include stops at Dulles North, Herndon/Monroe and Reston. Service would be eliminated upon extension of Metrorail service into Loudoun County.
2. *Route 9 Connector* – The *2010 CTP* proposes a new park-and-ride lot and commuter service from the Route 9 corridor (western part of Loudoun County) to Tysons Corner. This route could include stops at Leesburg, Dulles North, Herndon/Monroe and Reston. Service should be turned back at Route 772 upon extension of Metrorail service into Loudoun County.
3. *Sterling/Potomac to Fairfax* – The *2010 CTP* proposes new Sterling/Potomac to Fairfax service. The *2010 CTP* proposes this route operates to/from Tysons Corner in Phase 1, and is turned back at Wiehle Avenue in Phase 2, once Metrorail is extended into Fairfax County. This route would terminate at the Herndon/Monroe Station once Metrorail is extended to Loudoun County. Proposed service frequencies are 15-minutes.
4. *Dulles Town Center to Fairfax* – The *2010 CTP* proposes new express service from Dulles Town Center to Tysons Corner, with stops at Herndon/Monroe and Reston. Proposed frequencies are 30-minutes. This route would terminate at the Wiehle Avenue Station upon extension of Metrorail service to this location. This route would be eliminated and replaced with Atlantic/Pacific Circulator service upon extension of Metrorail Service into Loudoun County.

5. *Dulles North to Fairfax* – The *2010 CTP* proposes new express service from Dulles North to Tysons Corner, with stops at Herndon/Monroe and Reston. The *2010 CTP* proposes 15-minute peak period frequencies. This route would turn back at the Wiehle Avenue Station in Phase 2, and would be eliminated upon extension of Metrorail service into Loudoun County. A variation of this service is already in place with the Tysons Express service.

4.1.3 Local Service Needs

1. *Sterling* – Expanded local route service is proposed in the *2010 CTP* for the Sterling area, with service anchored at Dulles Town Center. The *2010 CTP* calls for 30-minute all-day frequencies.
2. *Atlantic Circulator* – A circulator is proposed on the east side of Route 28. The northern terminus of this route is Dulles Town Center. The southern terminus is Dulles north in Phase 1 (pre-Metrorail), Wiehle Avenue Metrorail Station in Phase 2 (Metrorail extended to Wiehle) and Route 606 Metrorail Station in Phase 3 (Metrorail extended into Loudoun County).
3. *Pacific Circulator* – A circulator is proposed on the west side of Route 28. This route was not proposed in Phase 1 of the *2010 CTP* (i.e., pre-Metrorail). This route would operate to/from Wiehle Avenue Station in Phase 2, and to/from Route 606 Metrorail Station in Phase 3. The northern terminus should be Dulles Town Center.
4. *7 to 7 on 7 Route* – No alignment changes are proposed to this route in the *2010 CTP*. Expanded service hours, however, are proposed and are discussed below.
5. *Ashburn Village and Ashburn Farm Connectors* – Loudoun County/VRT already has variations of these *2010 CTP*-proposed routes in place. Further changes to service in this area will be required once Metrorail is extended into Loudoun County.
6. *Loudoun County Parkway Circulator* – This route was proposed in Phase 2 of the *2010 CTP* (i.e., when Metrorail is extended to Wiehle Avenue). This route would operate along the Loudoun County Parkway to the Wiehle Avenue Station, and is truncated at the Route 772 Station once Metrorail is extended into Loudoun County. The *2010 CTP* proposes 15-minute frequencies.
7. *Leesburg and Purcellville Routes* – No changes were proposed in the *2010 CTP*.
8. *Dulles 2 Dulles* – This route can be streamlined to operate with a more direct alignment once the Atlantic and Pacific circulators are in place.
9. *Dulles South Circulator* – This is a proposed new route that would provide all-day local service between Dulles South and the proposed Route 606 Metrorail station. This route is proposed in the *2010 CTP* only after Metrorail is extended into Loudoun County.
10. *Extended Hours* – As noted above, many routes will require modifications once Metrorail is extended into Loudoun County. Although not specified in the *2010 CTP*, many of the local routes should be modified to include evening and weekend services.

4.1.4 Intercounty Local Routes

1. *Route 28 to Manassas* – The *2010 CTP* also proposes a Route 28 route that would operate from Dulles Town Center to Manassas. Service on this route will require deviations to adjacent employment centers and/or several circulator routes that serve as "feeders" to a trunkline Route 28 service.

4.1.5 Paratransit Service Needs

Expansion of local route service will result in increased paratransit service needs. In particular, there will be increased paratransit service needs associated with expanded service hours (e.g., evening service) and new weekend service.

4.2 Transit Facilities and Equipment Needs

Several new facilities and equipment are required to support the improvements identified above. These include:

1. New Transit Maintenance and Operations Facility (TMOF) for LC Transit Buses – This facility is presently programmed for construction in FY 2012 and will be located near the existing County Garage.
2. Harmony park and ride lot – Loudoun County is presently building a park and ride lot east of Hamilton at the Scott Jenkins Memorial Park, which is scheduled to open in June 2011.
3. Franklin Park park and ride lot – This facility is presently programmed for construction and is anticipated to be open in late 2011.
4. Eastgate/Dulles South – This facility is under consideration for development.
5. Route 9 Corridor park-and-ride lot – This park and ride lot is needed to support proposed Route 9 commuter/express service and is not presently programmed for construction.
6. Route 15/North Leesburg park and ride lot - This park and ride lot is needed to support proposed Route 15 commuter/express service and is not presently programmed for construction.
7. Lansdowne park and ride lot – This park and ride lot is needed to support proposed Lansdowne commuter service (proposed in Phase 3 of the *2010 CTP*) and is not presently programmed for construction.
8. One Loudoun park and ride lot – This park and ride lot is needed to support proposed One Loudoun commuter service (proposed in Phase 3 of the *2010 CTP*) and is not presently programmed for construction.
9. Buses – Additional buses will be required to accommodate expansion of transit services, as identified in the *2010 CTP*. The *2010 CTP* does not identify specific bus fleet expansion requirements.

4.3 Transit Service and Equipment Needs Costs

The *2010 CTP* identifies anticipated bus operating and capital costs for service expansion (excludes costs of existing services). Table 4-2 identifies route-specific service expansion costs from the *2010 CTP*. Costs by service type and phase are presented in Table 4-3. Unit costs in the *2010 CTP* include an amount for bus purchases.

The *2010 CTP* also identifies estimated costs for park and ride lot expansion. A total of $17.3 million was identified (above and beyond the costs indentified in Tables 4-2 and 4-3) for park and ride improvements, with the following break-out by CTP phase:

- Phase 1 (prior to Metrorail Expansion) – $3.3 million plus land for 1 lot north of Leesburg

- Phase 2 (Metrorail Expansion to Wiehle Ave.) - $5.8 million plus land for 3 proposed gateway lots
- Phase 3 (Metrorail Expansion to Loudoun County - $8.2 million plus land for 3 new lots

Table 4-2
Estimated Operating Costs for
2010 CTP Proposed Transit Improvements

Identified Service Need	Estimated Cost (From 2010 CTP)
Commuter Routes	
Ashburn Service Expansion	$1,565,000
Route 15 North to DC	$792,000
Lansdowne	$1,409,000
One Loudoun	$887,000
Harmony Service	Not Identified in CTP
Existing Commuter Service Expansion	Not Identified in CTP
Fairfax Commuter / Express Routes	
Route 9 to Tysons	$978,000
Cross County Connector	$984,000
Sterling/Potomac to Fairfax	$1,400,000
Dulles North to Fairfax	$940,000
Dulles Town Center to Fairfax	$642,000
Local Routes	
Ashburn Area Route Modifications	$227,000
Sterling Circulator Expansion	$440,000
Loudoun County Pkwy Circulator	$624,000
Atlantic Circulator	$235,000
Pacific Circulator	$515,000
Dulles South Circulator	$180,000
Route 7 to 7 on 7 Expansion	$440,000
Inter-County Route	
Route 28 to Manassas	$155,000

Table 4-3
Summary of Transit Service Costs Identified in the
2010 CTP

Service Type	Phase 1 (Pre Metrorail Exp.)	Phase 2 (Metrorail to Wiehle)	Phase 3 (Metrorail to Loudoun)
Local	$1,825,000	$3,707,000	$3,999,000
Express	$3,294,000	$2,250,000	$1,253,000
Inter-county	$154,000	$154,000	$297,000
Commuter	$11,256,000	$14,450,000	$9,469,000
Demand Response	$427,000	$534,000	$1,304,000
Total	**$16,956,000**	**$21,095,000**	**$16,322,000**

5.0 SIX-YEAR TRANSIT SERVICE AND FACILITY PLAN

This chapter identifies the cost-feasible transit service and capital needs that are recommended for inclusion in the TDP time period (FY 2012 through FY 2017). An unconstrained list of potential service and capital needs were identified in the prior chapter of this TDP. Recommended improvements presented in this chapter are financially constrained, based on reasonably anticipated funding availability during the TDP time period. Chapter 6 details the TDP Capital Investment Program and Chapter 7 establishes the Financial Plan for the Loudoun County Six-Year TDP.

5.1 Transit Service Recommendations

The transit service improvements identified in this "TDP Six-Year Transit Service and Facility Plan" are consistent with recommendations presented in the *2010 CTP*. Recommendations in the *2010 CTP* reflect a complete list of transit service needs that goes beyond this TDP's six-year time period. Thus, the service improvements presented in this chapter reflect those *2010 CTP* service improvements that are anticipated to be implemented over the next six-years. Many of these service improvements are defined only to the level needed to estimate potential vehicle requirements and costs. Additional project definition (e.g., specific route alignments, schedules and stop patterns) will be needed as these improvements progress towards implementation. It is important to note that service improvements have been identified for specific years in the TDP. However, as more detailed service planning and evaluation takes place, actual implementation dates are likely to change.

The following sections present proposed transit service improvements. Metrorail extension assumptions are first presented, followed by proposed commuter/express bus services, then local route services.

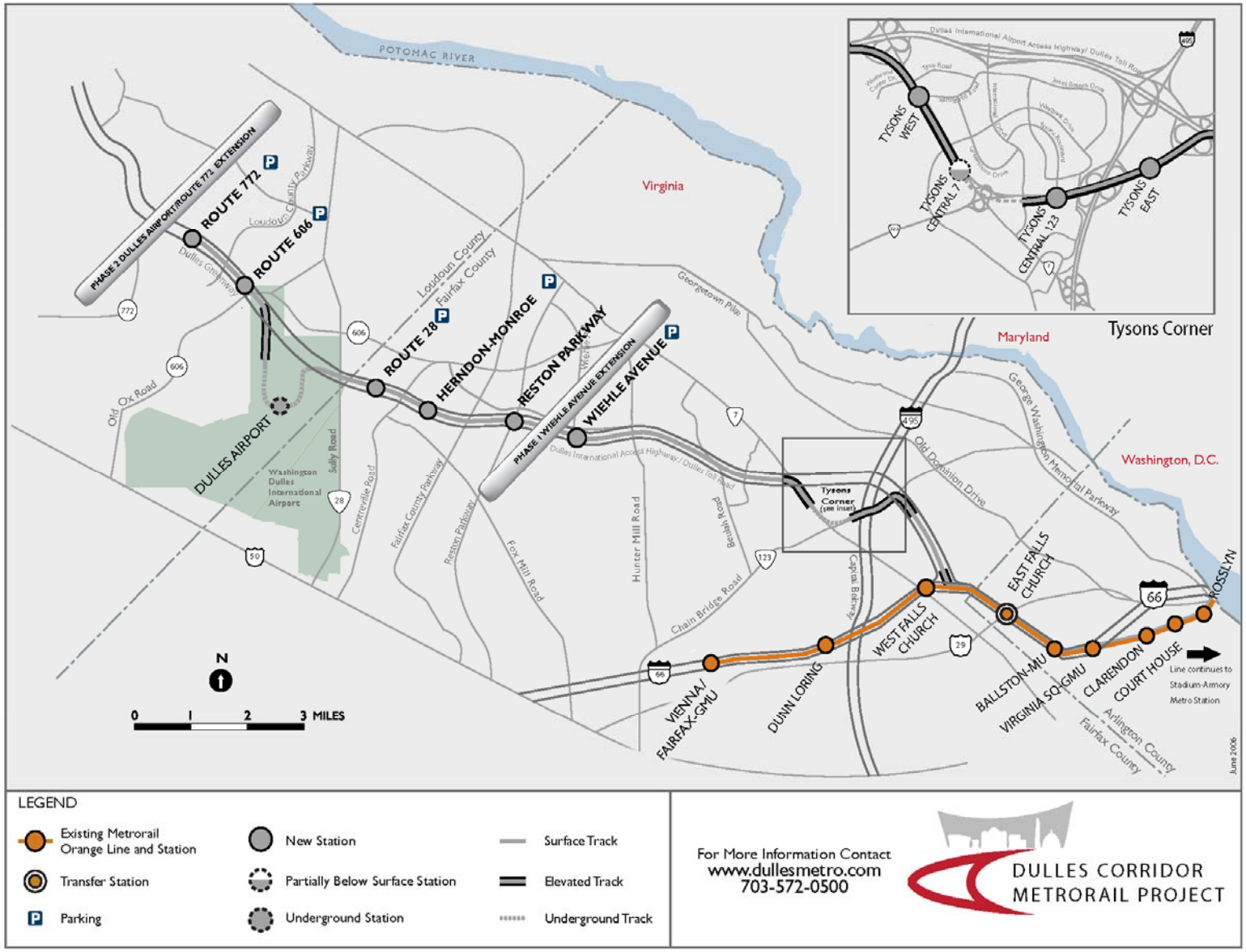
5.1.1 Metrorail Improvements

This TDP assumes the following Metrorail improvements within the six-year TDP time period:

1. ***Fiscal Year 2014*** – Metrorail's Silver Line opens to Wiehle Avenue, with four stations in Tysons Corner – Tysons West, Tysons Central 7, Tysons Central 123 and Tysons East. The Silver Line continues to East Falls Church, where Silver Line trains share tracks with the Orange Line into Washington, D.C.
2. ***Fiscal Year 2017*** – Metrorail's Silver Line is extended into Loudoun County. From Wiehle Avenue, stations include: Reston Parkway, Herndon-Monroe, Route 28, Dulles Airport, Route 606 and Route 772.

Figure 5-1 presents the proposed alignment of Metrorail's Silver Line.

Figure 5-1
Proposed Metrorail Silver Line Alignment and Stations



5.1.2 Commuter/Express Bus Service Improvements

The following section provides descriptions of proposed service improvements by Fiscal Year (2012 – 2017) for Loudoun County commuter and express bus services.

FY 2012 Transit Service Improvements

- *Harmony Park and Ride Service*

  A new park and ride lot is to be constructed at Scott Jenkins Memorial Park, just east of Hamilton. The lot is scheduled to be open in June 2011, and will replace existing service at Patrick Henry College. Existing commuter bus service will be modified to include trips stopping at this new park and ride lot. Some of these trips would also serve other park and ride lots (e.g., Leesburg, Dulles North). Further service planning will be conducted prior to the opening of this park and ride lot to determine the appropriate level of bus service.

- *Franklin Park Park and Ride Service*

  A new 200-space permanent park and ride lot is programmed for construction in Franklin Park in late fall 2011 (just west of Purcellville). Commuter bus operations currently originating from St. Andrew Presbyterian Church in Purcellville will be moved to Franklin Park. No significant changes in bus service levels are assumed, other than minor adjustments in bus schedules and stop patterns to accommodate shifts in passenger demand.

- *Christian Fellowship Church Park and Ride Lot Expansion*

  Approximately 100 additional park and ride lot spaces will be added to the exiting 123 spaces already leased at this site. It is anticipated that one or more of the expansion buses noted below will be originating from this lot.

- *Commuter Bus Service Expansion*

  Three new commuter buses are to be put into service in FY 2012. These buses are to address overcrowding on existing commuter bus trips. Specific bus trip assignments are yet to be determined.

- *Other Commuter Route Service*

  Periodic adjustments to bus route schedules and stop patterns are anticipated during this fiscal year to accommodate shifts in passenger demand.

FY 2013 Transit Service Improvements

- *Dulles South/Eastgate Park and Ride Service*

  A new park and ride lot is under consideration for development at Eastgate, which is located near Route 50 and Tall Cedars Parkway, just east of South Riding. This lot would contain approximately 200 spaces and would supplement service from the existing Dulles South park and ride lot. In conjunction with this new park and ride lot, commuter bus service would likely be modified to reflect more trips operating directly from the Dulles South park and ride lots, without stopping at Dulles North (resulting in additional seating capacity for both Dulles South and Dulles North riders).

- *Commuter Bus Service Expansion*
  Two new commuter buses are to be put into service in FY 2013. These buses are to address anticipated overcrowding on existing commuter bus trips. Specific bus trip assignments are yet to be determined.

- *Other Commuter Route Service*
  Periodic adjustments to bus route schedules and stop patterns are anticipated to accommodate shifts in passenger demand.

FY 2014 Transit Service Improvements

- *Potomac Falls-Wiehle Avenue*
  LC Transit presently operates service from the Potomac Falls area to West Falls Church Metrorail Station. It is proposed that this route pattern be modified to serve the new Wiehle Avenue Metrorail Station once the Silver Line opens to Wiehle Avenue in FY 2014. Service to Wiehle Avenue is anticipated to open a new transit market for trips from Potomac Falls to Tysons Corner. Thus, in conjunction with this route change, 20-minute peak period service frequencies are proposed.

- *Leesburg/Dulles North – Wiehle Avenue*
  LC Transit presently operates limited service from Leesburg and Dulles North to West Falls Church Metrorail Station – primarily at the ends of each peak period. It is proposed that this service be modified to serve the new Wiehle Avenue Metrorail Station, once the Silver Line opens to Wiehle Avenue. For the purposes of this TDP, it is assumed that service is expanded from the current 3 trips in each peak period to 5 trips in each peak period, with 2 midday trips. Specific service levels will need to be determined prior to implementing this new route pattern.

- *Reverse Commute Route Service*
  Select commuter bus trips presently terminating at West Falls Church Metrorail Station provide reverse commute service to major employers in Loudoun County (e.g., AOL, Verizon) on their return trip. This service is proposed to be eliminated in FY 2014, replaced with new all-day Atlantic Boulevard and Pacific Boulevard circulator route(s) (described in Section 5.3).

- *Tysons /Express/Shuttle Service*
  The Tysons Express service is proposed to remain in place after completion of the Metrorail Silver Line to Wiehle Avenue. Express routes will continue to operate from Leesburg with a stop at Broadlands South before continuing to Tysons Corner and circulating within Tysons Corner. The existing Tysons Shuttle service (Westpark Transit Station to East Tysons employment sites), however, is proposed to be eliminated in FY 2014. The Tysons Express route is presently funded by the Dulles Corridor Metrorail Project as part of that project's Transportation Management Plan. It is shown as a Loudoun County service in this TDP beginning in FY 2014.

- *Commuter Bus Service Expansion*
  Two new commuter buses are proposed for service in FY 2014. These buses are to address anticipated overcrowding on existing commuter bus trips. Specific bus trip assignments are yet to be determined.

- *Other Commuter Route Service*
  Periodic adjustments to bus route schedules and stop patterns are anticipated to accommodate shifts in passenger demand.

FY 2015 Transit Service Improvements

- *Commuter Bus Service Expansion*
  Two new commuter buses are proposed for service in FY 2015. These buses are to address anticipated overcrowding on existing commuter bus trips. Specific bus trip assignments are yet to be determined.

- *Other Commuter Route Service*
  Periodic adjustments to bus route schedules and stop patterns are anticipated to accommodate shifts in passenger demand.

FY 2016 Transit Service Improvements

- *Commuter Route Service*
  Periodic adjustments to bus route schedules and stop patterns are anticipated to accommodate shifts in passenger demand. No commuter service expansion is proposed for this year in anticipation of the 2017 Metrorail extension into Loudoun County.

FY 2017 Transit Service Improvements

- *Commuter Route Service*
  As noted in Section 5.1, Metrorail's Silver Line is assumed to be in operation out to Route 772 in Loudoun County by FY 2017. The *2010 CTP* recommends the continuance of commuter bus service into Washington, D.C., but at reduced service levels, and with fares that offset operations and maintenance costs. Specific commuter bus service levels and service patterns will need to be defined at the time of this major service modification. For the purposes of this TDP, it is assumed that commuter bus service will be reduced by 20 percent beginning in FY 2017. However, further reductions may be possible as LC Transit riders transition to Metrorail service. Specific service levels and stop patterns will vary based on projected demand at the time of this service change. Select trips from western Loudoun County will likely include a stop at the Route 606 Metrorail Station, allowing for transfers to rail and local fixed and circulator routes. Loudoun County will be well-positioned to respond to potential reductions in bus passenger demand once Metrorail service comes on-line because of the age composition of the bus fleet that will be available. The initial 22 buses that were purchased in FY 2004 will be fully depreciated at that time, allowing for rapid downsizing of commuter service to whatever level of passenger demand that remains for this service.

- *Potomac Falls-Herndon-Monroe*
  It was previously recommended that the existing Potomac Falls area to West Falls Church Metrorail Station service be modified to begin and end at the Wiehle Avenue Metrorail Station in FY 2014. For FY 2017, it is recommended that this route pattern be modified again to begin/end at the new Herndon-Monroe Metrorail Station once the Silver Line's Phase 2 is operational. The connection to Metrorail service at Herndon-Monroe will introduce a new

travel market to this bus route. Passengers will be able to access Tysons Corner and Dulles Airport via a Metrorail transfer. Thus, there may be significant changes in passenger demand. For purposes of this TDP, 15-minute peak period service frequencies are proposed.

- *Leesburg-Route 772 Metrorail*
  It was previously recommended that the existing Leesburg/Dulles North trips that serve the West Falls Church Metrorail Station be modified to begin and end at the Wiehle Avenue Metrorail Station in FY 2014. For FY 2017, it is recommended that this service be modified to an express route with all-day service between the Leesburg park-and-ride lot and the new Route 772 Metrorail Station. For the purposes of this TDP, 20-minute service frequencies are recommended all-day (from 5:30 a.m. to 8:30 p.m.). This route's alignment should include some circulation in Leesburg with a connection to the existing Leesburg local routes.

- *LINK (Ashburn Farm)*
  LC Transit presently provides feeder bus service from satellite park-and-ride lots in Ashburn Farm to Dulles North because of park-and-ride lot capacity constraints at Dulles North. This route is proposed to be eliminated in FY 2017 and replaced with restructured local feeder route service in the Ashburn area (described in Section 5.3) and the availability of parking at the Route 606 Metrorail Station.

- *Tysons Express Service*
  This service is proposed for elimination in FY 2017, in conjunction with the opening of Metrorail service into Loudoun County.

Tables 5-1 presents a listing of bus-hours and bus requirements associated with each identified commuter/express bus service improvement. As noted in the table below, annual revenue bus-hours are anticipated to grow from 50,400 (in FY 2011) to 62,500 (in FY 2016), and then drop back down to 50,100 in FY 2017, when Metrorail comes to Loudoun County. Appendix B presents commuter bus service plan tables for each year of the six-year TDP time period.

Table 5-1
Estimated Daily Revenue Bus-Hours for
Express / Commuter Routes

	Total Daily Revenue Bus-Hours by Route						
Route Name	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Purcellville/Harmony-DC	68	68	68	68	68	68	53
Leesburg-DC	18	18	18	18	18	18	13
Dulles South-DC	28	28	28	28	28	28	21
Dulles North-DC	22	22	22	22	22	22	16
Ashburn North-DC	14	14	14	14	14	14	11
Commuter Bus Service Expansion		12	21	29	37	37	24
Total DC Commuter Rev. Hours	**151**	**163**	**171**	**180**	**188**	**188**	**139**
Potomac Falls-Metrorail	15	15	15	12	12	12	13
Reverse Commute Trips	13	13	13	0	0	0	0
Leesburg-Metrorail/Dulles North Transit Ctr.	6	6	6	9	9	9	45
Tysons Express	0	0	0	21	21	21	0
Total Non-DC Service Rev. Hours	**33**	**33**	**33**	**42**	**42**	**42**	**58**
LINK Service Rev. Hours	**15**	**15**	**15**	**15**	**15**	**15**	**0**
Total Daily Revenue-Hours	**199**	**211**	**220**	**236**	**245**	**245**	**197**
Total Annual Revenue-Hours	**50,400**	**54,100**	**56,200**	**60,400**	**62,500**	**62,500**	**50,100**

Notes:
1. Weekday revenue bus-hours annualized with a factor of 200 for Monday-Thursday service and 52 for Friday service. Friday service has some additional midday commuter trips not reflected in the daily revenue hours shown above.
2. Tysons service-hours not included in table until 2014, when costs are assumed to be transferred to Loudoun County.
3. $150/bus-hour used for commuter and express bus service (2011 dollars)
4. $100/bus-hour used for LINK bus service (2011 dollars)

5.1.3 Local Bus Service Improvements

Following are descriptions of proposed service improvements by Fiscal Year (2012 – 2017) for Loudoun County local fixed route service.

FY 2012 Transit Service Improvements

- *Sterling/Fairfax*

  A new route is proposed between the Sterling area of Loudoun County and northern Fairfax County. Exact routing is yet to be determined, but for purposes of this TDP, it is assumed this route begins at Dulles Town Center and utilizes Fairfax County Parkway to the Herndon-Monroe area. Service would end at the Herndon-Monroe park and ride lot. This route could operate as express or limited stop service in the peak periods, and provide more local service in the midday. Two buses are proposed for this route. Assumed frequencies are 60-minutes all-day, weekday service only. It may be possible to achieve a better frequency, once a specific route alignment and travel time estimate is determined.

FY 2013 Transit Service Improvements

- *Atlantic/Pacific Circulator*

  A new Atlantic/Pacific circulator route is proposed for FY 2013. This route would provide service between Dulles Airport, the Dulles North Transit Center and Dulles Town Center, and provide all-day service to major employment and shopping centers located between these locations. Exact routing is yet to be determined, however, Atlantic and Pacific Boulevards would serve as the backbone for this route. Proposed frequencies are 30-minutes all-day on weekdays and 60-minutes on Saturdays and Sundays. Two buses will be needed for this route's weekday service.

- *Dulles 2 Dulles Air and Space Museum*

  The introduction of the Atlantic/Pacific circulator service allows for elimination of the Dulles 2 Dulles route.

- *Weekday Evening Service*

  It is proposed that evening service be initiated on select routes. For the purposes of this TDP, evening service until approximately 10:00 p.m. has been assumed for the following routes: 7 to 7 on 7, Sterling Circulator and Atlantic/Pacific Circulator.

- *Saturday Service*

  It is proposed that Saturday service be provided on the 7 to 7 on 7 route to complement Saturday service on the Atlantic/Pacific Circulator route.

FY 2014 Transit Service Improvements

- *Atlantic Circulator*

  The Atlantic/Pacific Circulator that is proposed for FY 2013 would be divided into two routes. The Atlantic Circulator would operate from the new Wiehle Avenue Station to Dulles Town Center. Specific routing is yet to be determined, but for purposes of this TDP, it is assumed the route will stop at Dulles North and Wegmans before proceeding to Dulles Town Center. Proposed service frequencies are 30-minutes in the peak period and 60-minutes in the midday. Four buses will be needed for this route (2 more than in FY 2013). This route will also continue to operate on weekends.

- *Pacific/Loudoun County Pkwy. Circulator*

  The Pacific/Loudoun County Pkwy Circulator would operate from the new Wiehle Avenue Station to Dulles Airport and Dulles North, and then to the employment centers along Loudoun County Parkway. Specific routing is yet to be determined. This route would replace reverse commute service presently provided by LC Transit from West Falls Church. Proposed service frequencies are 30-minutes in the peak period and 60-minutes in the midday, weekdays only. Four buses will be needed for this route.

- *Sterling/Fairfax*

  This route (proposed for FY 2013) would be modified to reflect a service extension from the Herndon/Monroe area to the new Wiehle Avenue Silver Line Metrorail Station. Peak period

service frequencies would also be improved from 60 to 30-minutes. Four buses will be needed for this route (2 more than in FY 2013).

- *West Falls Church Express*

  This route presently provides service from the West Falls Church Metrorail Station to major employment centers along Highway 7 (e.g., George Washington University, Howard Hughes Medical Center, INOVA Loudoun Hospital). It is proposed that this route be modified to begin/end at the new Wiehle Avenue Silver Line Metrorail Station. No changes are proposed to service frequencies. No change is anticipated to this route's existing peak bus requirement. It is important to note that this route is presently funded through a combination of private sector, FTA JARC, and Loudoun County funds. This funding partnership is assumed to remain in place during the TDP's six-year time period.

FY 2015 Transit Service Improvements

- Saturday service

  New Saturday service is proposed on the Sterling Circulator route.

- *Sunday Service*

  It is proposed that Sunday service be provided on the 7 to 7 on 7 and Sterling Circulator routes.

FY 2016 Transit Service Improvements

- No significant service expansion or route modifications are proposed for FY 2016, in anticipation of the planned Metrorail extension into Loudoun County in the next fiscal year.

FY 2017 Transit Service Improvements

- *Ashburn Village-Route 772 Feeder Routes*

  The opening of Metrorail service into Loudoun County will result in the need to restructure bus route service to "feed" into the rail line. The Ashburn area is presently served by two routes – Ashburn Village and Ashburn Farm/Broadlands. For the purposes of this TDP, it is assumed that these routes are eliminated and replaced with a more extensive network of feeder bus routes that operate from 5:30 a.m. to 8:30 p.m. Specific routing for these new routes will need to be determined. For the purposes of this TDP, five routes have been assumed, with service from the Route 772 Metrorail Station to: INOVA Hospital, Ashbrook Park, Dulles Town Center, Wegmans and Brambleton. Presently, two buses are dedicated to Ashburn service. This TDP assumes this expanded bus service will require five buses (i.e., five additional buses).

- *Dulles South to Route 606 Station*

  A new route is also proposed from the Dulles South area to the Route 606 Metrorail station. Twenty-minute peak/sixty-minute midday service is assumed with service from about 5:30 a.m. to 10 p.m. Three buses are likely to be required for this route. Alternatively, select commuter bus trips from the Dulles South area could be routed to include a stop at the Route 606 Metrorail station.

- *Atlantic and Pacific/Loudoun County Parkway Circulators*

  With the introduction of the new Metrorail service, the Atlantic and Pacific Circulator route alignments are proposed to begin/end at the Route 606 station. Service frequencies are also modified on both routes to 20-minutes in the peak period and 30-minutes in the midday period, with evening service until about 10 p.m. One additional bus will be required for these circulators over FY 2016's peak bus requirement.

- *7 to 7 on 7 and Sterling Circulator*

  An earlier start of service is proposed (5:30 a.m.) on these routes to be consistent with other span of service changes (i.e., the Atlantic and Pacific routes).

Tables 5-2 presents a listing of bus-hours and bus requirements associated with each identified Loudoun County local bus route. Town of Leesburg-funded routes are not included in this table. This TDP assumes the Town of Leesburg will continue to plan and fund these routes at levels similar to existing services. As noted in the table, annual revenue bus-hours are anticipated to grow from 40,000 to 92,000, with a significant jump in bus-hours from FY 2013 to FY 2014 when Metrorail service is extended to Wiehle Avenue, and from FY 2016 to FY 2017 when Metrorail service is extended to Loudoun County. Tables in Appendix C present local bus service plan tables for each year of the six-year TDP time period.

Table 5-2
Estimated Daily Revenue Bus-Hours for Local Routes

WEEKDAY LOCAL ROUTE SERVICE	Daily Revenue Bus-Hours by Route						
Route Name	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Ashburn Village Route	12	12	12	12	12	12	0
Ashburn Farm/Broadlands Route	12	12	12	12	12	12	0
Sterling Circulator	24	24	27	27	27	27	30
Dulles 2 Dulles Air & Space Museum	18	18	0	0	0	0	0
7 to 7 on 7 Route	48	48	54	54	54	54	56
Purcellville Connector Route	12	12	12	12	12	12	12
West Falls Church Express	25	25	25	25	25	25	0
Sterling/Fairfax		24	24	34	34	34	34
Atlantic Circulator			29	44	44	44	55
Pacific Circulator				38	38	38	55
Ashburn Village/Route 772 Feeder Routes							75
Dulles South to Route 606							30
TOTAL WEEKDAY REVENUE-HOURS	**151**	**175**	**195**	**258**	**258**	**258**	**346**

SATURDAY LOCAL ROUTE SERVICE	Daily Revenue Bus-Hours by Route						
Route Name	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Dulles 2 Dulles Air & Space Museum	14	14	0	0	0	0	0
Atlantic Circulator			11	22	22	22	11
Route 7 to 7 on 7			22	22	22	22	22
Sterling Circulator					11	11	11
TOTAL SATURDAY REVENUE-HOURS	**14**	**14**	**33**	**44**	**55**	**55**	**44**

SUNDAY LOCAL ROUTE SERVICE	Daily Revenue Bus-Hours by Route						
Route Name	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
Dulles 2 Dulles Air & Space Museum	14	14	0	0	0	0	0
Atlantic Circulator			9	18	18	18	9
Route 7 to 7 on 7					18	18	18
Sterling Circulator					9	9	9
TOTAL SUNDAY REVENUE-HOURS	**14**	**14**	**9**	**18**	**45**	**45**	**36**

TOTAL ANNUAL REVENUE-HOURS	**40,000**	**46,000**	**51,000**	**68,000**	**70,000**	**70,000**	**92,000**

Notes:

1. *Daily Revenue-hours annualied with 252 weekdays, 52 Saturdays and 58 Sundays.*
2. *Leesburg routes not shown in above table. TDP assumes the Town of Leesburg will continue to plan and fund these routes, and that service levels will remain similar to existing.*

5.2 O&M Costs

Proposed service changes and O&M costs associated with each service change (commuter / express and local route service) are presented below in Table 5-3 (excludes costs of existing services). Costs are presented in current (FY 2011) dollars and reflect full costs prior to the collection of passenger revenues. Costs for commuter service are based on an hourly rate of $150 per revenue bus-hour (inclusive of fuel costs). Costs for local service are based on an hourly rate of $60 per revenue bus-hour. Costs for LINK service are based on an hourly rate of $100 per revenue bus-hour. This TDP reflects $3.2 million in proposed transit service changes over the TDP's six-year time period (in current year dollars). The most significant increase is in FY 2014 when service is expanded to enhance Metrorail connections to the Wiehle Avenue Station. The cost for local route service increases significantly in FY 2017 when Metrorail service is extended to Loudoun County. However, some of these costs are offset by reductions in commuter bus service.

Table 5-3
Estimated Operating Cost for Proposed Service Changes:
Commuter /Express and Local Routes in Loudoun County (FY 2011 dollars)

Fiscal Year	Service Type	Route	Service Improvement	Cost of Improvement
FY 2012	Commuter	Commuter Service Expansion	Continued expansion to meet growing demand	$468,000
	Local	Sterling/Fairfax Route	New route to Herndon-Monroe	$363,000
FY 2013	Commuter	Commuter Service Expansion	Continued expansion to meet growing demand	$312,000
	Local	Atlantic Pacific Circulator	New route	$500,000
		Eliminate Dulles 2 Dulles	Eliminate route	-$365,000
		7 to 7 on 7	Add evening service	$91,000
		Sterling Circulator	Add evening service	$45,000
		7 to 7 on 7	Add Saturday service	$69,000
FY 2014	Commuter	Commuter Service Expansion	Continued expansion to meet growing demand	$312,000
		Leesburg to Wiehle Route	New route (replaces existing service to West Falls Church	$125,000
		Reverse Commute Service	Eliminate reverse commute service from West Falls Church	-$499,000
		Potomac Falls Commuter Service	Re-route from W. Falls Church to Wiehle Ave.	-$83,000
		Tysons Express Service	Continue Tysons Express service	$776,000
	Local	Sterling/Fairfax	Increase peak period freq.	$151,000
		Atlantic Circulator	Modify align. And increase peak freq.	$289,000
		Pacific/Loudoun Co. Pkwy. Circ.	New route	$575,000
FY 2015	Commuter	Commuter Service Expansion	Continued expansion to meet growing demand	$312,000
	Local	7 to 7 on 7	Add Sunday service	$63,000
	Local	Sterling Circulator	Add Saturday & Sunday service	$65,300
FY 2017	Commuter	All D.C. Commuter Routes	Reduce level of bus service	-$1,854,000
		Leesburg/Metrorail Connection	Provide all-day service to Route 772 Station	$1,383,000
		Potomac Falls/Metrorail Connection	Increase freq - route to Herndon-Monroe	$7,000
		Tysons Express Service	Eliminate (replaced with Leesburg/Metrorail)	-$776,000
		LINK Service	Eliminate (replaced with new local service)	-$378,000
	Local	Ashburn Farm Area Routes	Expand bus service in Ashburn Farms area	$772,000
		Wiehle Express (currently W. Falls Church Expr.)	Eliminate route	-$378,000
		Dulles South to Route 606	New route	$446,000
		Atlantic/Pacific Circulators	Modify alignments, increase frequencies	$351,000
		Sterling Circulator	Provide earlier start of service	$45,400
		7 to 7 on 7	Provide earlier start of service	$30,000

Note: Costs in table reflect full operating costs, prior to the collection of passenger revenues

The following table (5-4) presents a summary of O&M costs for proposed service improvements by fiscal year for commuter/express, Tysons Express and local route service (again, excludes costs of existing

services). Costs are presented in current year (FY 2011) and year of expenditure dollars (assuming a 3%/year inflation rate). Tysons Express service is shown as becoming a Loudoun County Transit expense in FY 2014, upon completion of the Metrorail project to Wiehle Avenue. This cost is then eliminated in FY 2017, once Metrorail is extended to Loudoun County.

Table 5-4
Estimated Total O&M Costs for
Express / Commuter and Local Route Service Improvements in Loudoun County
(in FY 2011 and Year of Expenditure dollars)

Fiscal Year	Commuter/ Express	Tysons Express	Local Routes	Total Costs (FY11$)	Total Costs (YOE$)
FY 2012	$468,000		$363,000	**$831,000**	**$855,900**
FY 2013	$312,000		$340,000	**$652,000**	**$691,700**
FY 2014	-$145,000	$776,000	$1,015,000	**$1,646,000**	**$1,798,600**
FY 2015	$312,000		$128,300	**$440,300**	**$495,600**
FY 2016	$0		$0	**$0**	**$0**
FY 2017	-$814,000	-$776,000	$1,266,400	**-$323,600**	**-$386,400**

It is important to note that the above table does not include costs for ADA/paratransit service costs. Paratransit service costs are anticipated to grow at a rate comparable to local route service. Expansion of local route service into new geographic areas, and expansion of local route service operating hours (e.g., evening service, weekend service) will result in a corresponding increase in paratransit service costs.

5.3 Transit Capital and Facility Recommendations

TDP capital improvement recommendations for FY 2012 through FY 2017 are consistent with the service changes described above. Chapter 4 of this TDP identified a list of unconstrained transit capital investment projects for Loudoun County. Recommendations for the Six-Year TDP are identified by fiscal year below under each type of capital improvement.

5.3.1 Vehicle Recommendations

Loudoun County presently owns a fleet of 45 MCI commuter coaches for existing commuter services. The County also leases 5 commuter coaches and 3 shuttle buses through its existing operating contract with Veolia (the smaller buses are used for LINK service). Buses used for the existing Tysons Express/Shuttle service are included in this total (presently funded through the Dulles Corridor Metrorail Project). Table 5-5 identifies Loudoun County's fleet composition and proposed fleet replacement and expansion plan. This plan proposes the purchase of 3 buses in FY 2012 and 2 buses in FY 2013 through FY 2015. No additional commuter bus purchases are proposed for 2016. Loudoun County's commuter bus requirement is reduced in 2017 when Metrorail comes to Loudoun County. Loudoun County's oldest buses are 2004 buses (there are 22 buses that were purchased in 2004). These buses will be ending their 12-year depreciation cycle in FY 2017, which, again, is when Metrorail is anticipated to be extended into Loudoun County and the County's bus requirement for commuter / express services is anticipated to be reduced. The fleet replacement schedule in Table 5-5 shows a portion of the 2004

buses remaining in the fleet in FY 2017. Since these buses are fully depreciated, Loudoun County will have the flexibility to retire as little or as many of these buses as necessary at that time to match commuter service levels to rider demand.

Table 5-5
Commuter / Express Bus Service
Transit Fleet Replacement and Expansion Schedule

		Transit Development Plan Period						
		Vehicle Fleet						
Year	**Make**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**
2004	Commuter Coach	22	22	22	22	22	22	17
2005	Commuter Coach	2	2	2	2	2	2	2
2006	Commuter Coach	7	7	7	7	7	7	7
2007	Commuter Coach	2	2	2	2	2	2	2
2008	Commuter Coach	2	2	2	2	2	2	2
2009	Commuter Coach	3	3	3	3	3	3	3
2010	Commuter Coach	7	7	7	7	7	7	7
2011	Commuter Coach	2	2	2	2	2	2	2
2012	Commuter Coach		3	3	3	3	3	3
2013	Commuter Coach			2	2	2	2	2
2014	Commuter Coach				2	2	2	2
2015	Commuter Coach					2	2	2
County-Owned Fleet Size		**47**	**50**	**52**	**54**	**56**	**56**	**51**
Average Fleet Age		4.85	5.50	6.25	6.98	7.70	8.66	8.06
Leased Buses		6	6	6	6	6	6	0
Total Buses Available		53	56	58	60	62	62	51
Peak Buses		43	46	48	51	52	52	43
Spare Buses		10	10	10	9	10	10	8
Spare %		23%	22%	21%	18%	19%	19%	19%

Notes:

1. Above fleet replacement schedule assumes retirement of some 2004 buses in FY 2017, once Metrorail is extended into Loudoun County. Number of buses retired could vary (i.e., less or more) depending on passenger demands for commuter bus services.

As noted earlier in this chapter, this TDP calls for significant expansion of local route services in Loudoun County. Additional non-commuter bus purchases required to accommodate proposed service expansion by year is noted below. These vehicle requirements take into consideration both peak and spare vehicle needs for expanded local route service.

- FY 2012 – 3 buses
- FY 2013 – 1 bus
- FY 2014 – 10 buses
- FY 2015 – 0 buses
- FY 2016 – 0 buses
- FY 2017 – 5 buses

A total of 19 new buses are needed to accommodate proposed local fixed route and circulator bus expansion. Note that this total does not include bus replacement needs for the existing 17 VRT buses that are in local route service, nor does it include VRT demand response vehicle replacements.

5.3.2 Maintenance Facility Recommendations

Loudoun County is in the process of designing a new Transit Maintenance and Operations Facility (TMOF) for commuter / express services. Construction is anticipated to begin in FY 2012. This facility will be located on county property on Sycolin Road in Leesburg, adjacent to the existing county garage, and will provide space for bus maintenance functions, bus storage and support services, to be performed by the contractor. Bus fueling presently occurs at the adjacent County garage. It is assumed that the majority of the facility maintenance costs in the early years would be the responsibility of the contractor.

VRT's administration and bus maintenance facility is located in the Town of Purcellville. VRT is presently planning to expand its administrative facilities by adding a second floor to the existing building.

5.3.3 Park and Ride Lot Expansion Recommendations

As previously noted in Chapter 1 of this TDP, Loudoun County commuter service operates from a variety of park and ride lots. Some are leased and donated lots and others are proffered lots. The Dulles North lot is VDOT-owned. The Leesburg and Ashburn North lots are the two county-owned lots.

Currently, many of the park and ride lots served by transit are near capacity, with the Dulles North Transit Center and the Leesburg Park and Ride lot over-parked on most mid-weekdays. There is opportunity for expansion of the donated space at Christian Fellowship Church (CFC). Thus, much of the near–term expansion in the Ashburn area will focus on the Ashburn North and CFC lots. A 100-space proffered lot has also been constructed by a developer in the Brambleton area. This lot will be served by Dulles South buses when the missing link of the Loudoun County Parkway is constructed, providing bus access to this lot.

In addition to the above-noted opportunities, the following two park and ride lots are in the design and construction phase, and thus are planned to be operational during the TDP's six-year time period. A third lot is contemplated for Dulles South and may be operational within the TDP timeframe.

1. Loudoun County is building the Harmony park and ride lot, located east of Hamilton at the Scott Jenkins Memorial Park. This 250-space lot is scheduled to open in June 2011.
2. The County also plans to build a permanent park and ride lot at Franklin Park. This 200-space lot is anticipated to be open in Spring 2012.

No other park and ride lot facilities are planned for construction during the TDP six-year time period. However, there are four additional lots that could be introduced during the TDP time period. These are proffered lots that will be triggered in conjunction with the timing of new development, and are located at Goose Creek Village (100 spaces), Arcola Center (200 spaces), Dulles Town Center (200 spaces) and Stone Ridge (150 spaces). Loudoun County has also recognized the need to find a suitable site for a second park and ride lot in the Leesburg area, and is actively pursuing options for the lot.

6.0 CAPITAL IMPROVEMENTS PROGRAM

This chapter of the TDP describes capital programs required to carry out the recommended operations and services presented in the prior chapter.

6.1 Vehicle Replacement and Expansion Program

Loudoun County presently owns a fleet of 45 MCI commuter coaches for existing commuter services. The County also leases five commuter coaches and three shuttle buses through its existing operating contract with Veolia (the smaller buses are used for LINK service), for a total of 51 revenue service vehicles. Not included in these totals are buses used for the existing Tysons Express/Shuttle service (presently funded through the Dulles Corridor Metrorail Project). The fleet replacement/expansion schedule that was presented in the last chapter (Table 5-5) reflects the following planned purchases:

- FY 2012 – 3 commuter coaches
- FY 2013 – 2 commuter coaches
- FY 2014 – 2 commuter coaches
- FY 2015 – 2 commuter coaches

No vehicle replacements are proposed during the TDP six-year time period. However, beginning in FY 2017 (when Metrorail is extended to Loudoun County), it should be possible to eliminate the existing lease agreement for five commuter coaches and three shuttle buses. It may also be possible to retire some of Loudoun County's 2004 MCI commuter coaches, depending on the level of commuter service reductions that occur.

Other bus-related capital has also been included for farebox/SmarTrip-related expenditures.

Table 6-1 presents anticipated costs for the new commuter coaches identified above in year of expenditure (YOE) dollars.

Table 6-1
Commuter / Express Bus Service Vehicle Expansion Capital Costs
(in Year of Expenditure Dollars)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Bus Fleet Expansion	$1,620,000 (3 buses)	$1,112,000 (2 buses)	$1,146,000 (2 buses)	$1,180,000 (2 buses)	$0	$0
Other Bus-Related	$50,000	$52,000	$53,000	$55,000	$0	$0

Vehicle costs based on $540,000 per commuter coach, inflated by 3%/year

Bus vehicle needs for expanded local fixed route and circulator service were also identified in Chapter 5. A total of 19 new buses were identified for expanded service. Specific vehicle needs will still need to be determined. However, for the purposes of this TDP, 29' or 30' buses have been assumed. Table 6-1 presents anticipated costs for new local route buses in year of expenditure (YOE) dollars. It is important to note that this table does not include bus purchase needs for vehicle replacements, nor does it include paratransit vehicle replacement/expansion needs (service presently provided by VRT).

Table 6-2
Local Bus Service Vehicle Replacement/Expansion Capital Costs
(in Year of Expenditure Dollars)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Bus Fleet Expansion	$900,000 (3 buses)	$309,000 (1 bus)	$3,183,000 (10 buses)	$0	$0	$1,739,000 (5 buses)

Vehicle costs based on $300,000 per bus, inflated by 3%/year

6.2 Transit Maintenance and Operations Facility

Loudoun County is to break ground on a new transit maintenance and operations facility (TMOF) in FY 2012 with construction anticipated to be complete by FY 2013. The estimated total cost for this facility is $14 million. As it currently stands, $2.2 million has been programmed in FY 2011. For the purposes of this TDP, $9.9 million has been assumed for FY 2012, with the remaining $1.9 million in FY 2013.

6.3 Transit Center and Park and Ride Lot Facility Expansion

As noted earlier in this TDP, two park and ride lots are presently programmed to open during the TDP's six-year time period, with a possible third lot in Dulles South under consideration. The Harmony park and ride lot at the Scott Jenkins Memorial Park is scheduled to open in 2011. The Franklin Park park and ride lot is anticipated to open in spring, 2012. There is also an identified need for a second park and ride lot in the Leesburg area. A cost of $3 million has been assumed for this second park and ride lot. Other possible new park and ride lots in the TDP time period are associated with development proffers.

The Dulles North Transit Center is also programmed to obtain a canopy for the passenger waiting area. This is a $1 million VDOT project that is programmed for FY 2012 and funded with CMAQ dollars. Finally, there is a need for a passenger transit center at the Dulles Town Center. A development proffer is being negotiated for funding this facility. For the purposes of this TDP, it is assumed that this facility would be in place in FY 2017.

Table 6-3 presents a summary of costs for all vehicle and capital improvements that have been identified in this TDP.

Table 6-3
Summary of Loudoun County TDP Capital Costs
(in Year of Expenditure Dollars)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Commuter Fleet	$1,620,000 (3 buses)	$1,112,000 (2 buses)	$1,146,000 (2 buses)	$1,180,000 (2 buses)	$0	$0
Other Bus-Related	$50,000	$52,000	$53,000	$55,000	$0	$0
Local Fleet	$900,000 (3 buses)	$309,000 (1 bus)	$3,183,000 (10 buses)	$0	$0	$1,739,000 (5 buses)
TMOF*	$10,900,000	$1,900,000	$0	$0	$0	$0
Leesburg park-and-ride	$0	$0	$3,000,000	$0	$0	$0
Dulles North Canopies	$1,000,000	$0	$0	$0	$0	$0
Total Expenditures	**$14,470,000**	**$3,373,000**	**$7,382,000**	**$1,235,000**	**$0**	**$1,739,000**

Notes:

1. *Costs inflated by 3%/year.*
2. ** There are $2.2 million programmed in FY 2011 for the TMOF facility that are not included in the above table.*
3. *Costs associated with proffered facilities are not included in table.*

7.0 FINANCIAL PLAN

The financial plan is a principal objective of the TDP. It is in this chapter that an agency demonstrates its ability to provide a sustainable level of transit service over the TDP time period, including the rehabilitation and replacement of capital assets. This chapter identifies existing and anticipated funding requirements and funding sources for annual operating and maintenance (O&M) costs, and capital expenditures. Operating and maintenance costs were presented in Chapter 5 and capital costs were presented in Chapter 6. The chapter also includes balance sheet tables that match funding against anticipated costs over a six-year planning horizon (FY 2012 through FY 2017). Appendix D at the end of this document presents these balance sheets including actual data back to FY 2009. Finally, the chapter also identifies potential funding sources that may be available in the future for both operating and capital purposes.

7.1 Existing LC Transit Commuter Costs and Funding Sources

Loudoun County's expenditures for Transit & Commuter Services operating and maintenance and capital projects are estimated to be $24.6 million for FY 2012. Of this amount, approximately $9.8 million will be spent on operations and maintenance of Commuter service and another $14.8 million will be spent on capital projects.

7.1.1 Commuter Operations

Loudoun County's FY 2012 budget for LC Transit commuter service operations is $9.8 million. The budget amount does not include bus replacement or lease costs, which are considered capital items. LC Transit also operates Tysons Express service, which is expected to cost approximately $1.1 million in FY 2012 and is currently funded through the Dulles Corridor Metrorail Project and fares. Revenue sources for LC Transit operations presently come from the following sources:

- State Mass Transit Trust Fund/Operating Funds (Commuter & Express): $1.1 million (11%)
- Dulles Metrorail TMP (Tysons): $0.9 million (9%)
- Farebox Revenues: $6.6 million (69%)
- Gasoline Tax: $1.1 million (11%)

State Mass Transit Trust Fund

The Virginia Department of Rail and Public Transportation (DRPT) administers the State Mass Transit Trust Fund (MTTF). Revenues collected by the Commonwealth for this fund are distributed as follows:

- 74.25% formula operating assistance
- 25% to capital assistance grants
- 0.75% to special projects

In FY 2011, the Commonwealth was able to fund 35.7% of eligible operating expenses state-wide through formula operating assistance grants. Loudoun County received $1.1 million in formula (operating) assistance funds in FY 2011 and has budgeted $1.1 million for FY 2012. The MTTF is expected to provide 11% of Loudoun's commuter service operating costs in FY 2012.

Dulles Metrorail Transportation Management Plan (TMP)

Tysons Express service is currently funded by the Dulles Corridor Metrorail Project (TMP) administered by DRPT. In FY 2014, when Metrorail is extended to Wiehle Avenue, it is assumed that the TMP will no longer fund Tysons Express service. At that time, Tysons Express service will be rolled into the LC Transit commuter and express budget. It is also assumed that the Tysons Express service will no longer operate in FY 2017 when Metrorail is extended into Loudoun County. The Dulles Metrorail project currently fully-funds Tysons Express service, net of fares, which accounts for 9% of Loudoun's commuter service operating costs in FY 2012.

Farebox Revenues

LC Transit's farebox revenues cover 68% of O&M expenses. It should be noted that Loudoun's Farebox Recovery Ratio (FRR) of 68% is higher than most bus services in the United States. LC Transit charges a fare for each boarding as there are no free or discounted transfers, except for a discounted intracounty fare between commuter routes. The current fare structure is as follows:

- Commuter Service: $7.00 with SmarTrip card/$8.00 cash
- Tysons Express: $3.00 with a SmarTrip card and $3.50 cash
- West Falls Church Connection Service: $1.75 with SmarTrip card/$2.25 cash
- Intracounty fare: $1.00 cash

Northern Virginia Gasoline Sales Tax

The local gasoline tax is a 2.1 percent tax on gasoline distribution in Northern Virginia. Revenues from the gasoline sales tax (gas tax) fund approximately 11% of LC Transit operations. The gas tax fund is administered by the Northern Virginia Transportation Commission (NVTC), which allocates the funds to member jurisdictions, most of which are within the WMATA Compact. Gas tax revenue from those jurisdictions is distributed by NVTC to WMATA to help defray Metrobus and Metrorail expenses. Loudoun County, however, is currently not a paying member and receives the full 2.1% that is collected from gasoline sales within Loudoun County. In FY 2012, Loudoun County is anticipated to receive approximately $8.7 million from the gas tax of which $2.798 million will be used to help fund LC Transit operations. Another $1.3 million is gifted to VRT to help support local bus service operations. The remaining amount of gas tax revenues is used to fund other transportation projects within the County.

It is important to note that the extension of Metrorail service into Loudoun County in FY 2017 will trigger the requirement for Loudoun County to enter the WMATA Compact as a paying member. At that time all gasoline sales tax revenues will go towards subsidizing Loudoun County's share of Metrorail operating expenditures. Thus, gas tax revenues will no longer be available to Loudoun County to fund LC Transit or VRT operations, or LC Transit capital projects.

7.1.2 Commuter Capital

Loudoun County expects to spend approximately $14.7 million on transit capital projects in FY 2012. These capital projects include expansion buses (3) and related equipment, lease purchase payments; and county mandated costs to the bus replacement fund. The FY2012 capital budget includes one-time

project expenses to construct the transit maintenance facility and the installation of a canopy at the Dulles North Transit Center ($10.9M total for both projects).

The source of funding for LC Transit's non-vehicle capital expenditures includes: state capital assistance grants; pass-through funds from federal programs (CMAQ); proffers; and other County transportation funds.

The cost of new vehicles and lease purchases is generally funded 50% from the state and 50% from local sources. The local sources include debt financing and proffers. Proffers are typically cash amounts that are voluntarily granted to the County to partially offset future capital facility costs associated with specific land developments. Loudoun County plans replacement of existing vehicles by annually budgeting contributions from fares and gas tax to a replacement fund.

7.2 Existing VRT Costs and Funding Sources

VRT operates local transit service in Loudoun County through an agreement with DRPT. Loudoun County plans routes and services within the County except for the Town of Leesburg. Loudoun County contributes to the cost of operating this service including funding for some of the Leesburg routes. Leesburg plans it owns routes and funds a portion of the Leesburg specific routes.

VRT's ongoing capital costs are funded through a combination of federal and state grants that are matched with local funding. The following sections describe Loudoun County local operating and capital transit service. Appendix D further breaks-out this service between the town of Leesburg and the remainder of the County.

7.2.1 VRT Operations

VRT's operating expenses in FY 2012 for Loudoun County local fixed route and paratransit service are approximately $5.5 million, which includes about $800,000 in expenses for routes funded with federal Job Access and Reverse Commute (JARC) funds. The FY 2012 expenses are estimated for this TDP based on VRT's FY 2011 operating budget of $4.8 million for Loudoun County service. Funding sources for VRT operations currently come from the following sources:

- Federal 5311 Non-urbanized Area Formula Program: $2.0 million (36%)
- Federal Job Access and Reverse Commute (JARC) Program: $0.5 million (9%)
- State Mass Transit Trust Fund/Operating Funds: $0.6 million (11%)
- Farebox Revenues: $162,200 (3%)
- Gas Tax: $1.7 million (32%)
- Private Funds: $0.5 million (9%)

In general, Federal 5311 funds cover 50% of operating costs net of fare revenue and JARC funding (including grant funds and local match). JARC funds comprise 9%; State funds comprise about 11%; local funds, mostly from Loudoun County, provide 32%; and private funds provide about 9% of current VRT operations funding.

Federal 5311 Non-urbanized Area Formula Program

Federal Non-urbanized Area Formula or Section 5311 program (49 U.SC. 5311) funds are the largest source of revenue for VRT service (36%). The 5311 program is the Federal Transit Administration's (FTA) formula assistance program for public transportation in non-urbanized areas (rural areas and urban areas under 50,000 in population and not included in an urbanized area). FTA gives the states maximum discretion in designing and managing the Section 5311 program to meet its rural public transportation needs. Federal 5311 funds flow first to the State, and then to subrecipients. Eligible subrecipients include local governments, non-profit organizations, operators of public transportation services and intercity bus operators. VRT, a non-profit organization, is a subrecipient of 5311 formula funds through DRPT. Section 5311 funds cover 50% of VRT's operating costs after fare revenue, JARC funds, and JARC-related local matching funds are taken into consideration. Since the 2000 census, Route 28 has been used by the Commonwealth as the urbanized area boundary for federal funding eligibility purposes. Local routes that principally serve populations west of Route 28 have generally been considered eligible for 5311 funding assistance.

Federal Job Access and Reverse Commute (JARC)

The Federal Job Access and Reverse Commute program (49 U.S.C. 5316) funds capital improvements and offers financial assistance for operations that can boost the productivity of a proposed project by expanding anticipated ridership in a predominantly counter-flow direction. States and public bodies are eligible designated recipients. Eligible subrecipients are private non-profit organizations, State or local governments, and operators of public transportation services including private operators of public transportation services. The Federal share of the eligible operating costs may not exceed 50 percent of the net operating costs. VRT, a non-profit organization, is a subrecipient of JARC funds through DRPT. VRT currently applies for JARC funds for the Route 7 Corridor services (e.g. 7 to 7 on 7) of the FTA maximum 50% of operating costs of that route. VRT funds the other 50% through fare revenue and other local funds, including Loudoun County and private entities (HHMI Research campus and George Washington University). Overall, JARC funds comprise 9% of VRT's operating revenues.

State Mass Transit Trust Fund

The Virginia Department of Rail and Public Transportation (DRPT) administers the State Mass Transit Trust Fund (MTTF). Revenues collected by the Commonwealth for this fund are distributed as follows:

- 74.25% formula operating assistance
- 25% to capital assistance grants
- 0.75% to special projects

The State Mass Transit Trust Fund covers 11% of VRT's Loudoun County operations costs. In FY 2011, the Commonwealth was able to fund 35.7% of eligible operating expenses state-wide through formula operating assistance grants. VRT received $565,000 in formula assistance funds in FY 2011 and is estimated to receive $585,000 in FY 2012 based on FY 2011 DRPT allocations for Loudoun County local service, including Leesburg.

Farebox Revenues

Farebox revenues cover only 3% of VRT's Loudoun County operations costs. As of April 1, 2011, VRT no longer offers free transfers within Loudoun County. VRT's fare structure for Loudoun County service is as follows:

- Local Service: $0.50
- West Falls Church Express: $1.75
- The Leesburg Trolley and Leesburg Safe-T-Ride: Free
- Demand Response: Fares are $3.00, regardless of distance. There is a $2 fare discount for the disabled, and a $1 fare discount for the elderly.

Northern Virginia Gasoline Sales Tax

As previously noted, Loudoun County receives gas tax revenues from NVTC and gifts a portion of these funds each year to VRT to provide the local match for federal and state funds to subsidize VRT service. In FY 2012, the County has budgeted $1.3 million to subsidize VRT's operation of local fixed route and paratransit service in Loudoun County, which covers approximately 32% of VRT's operating costs. This amount includes $20,000 for the Leesburg Safety Shuttle (Safe-T-Ride) and $25,575 to serve the Steven F. Udvar-Hazy Center (a branch of the National Air & Space Museum) from the Dulles Town Center and Dulles Airport.

Other Funds

Other funds comprise about 9% of VRT's operating funds in Loudoun County. These funds include: contributions from the towns of Leesburg, Purcellville, and Lovettsville; private funds used as local match for JARC grants; and funds from the Udvar-Hazy Center.

7.2.2 VRT Capital

VRT generally receives a share of Federal, State, and local funding sources for capital projects. Funds for VRT's capital expenditures typically come from FTA's 5311 program or Federal Surface Transportation Program (STP) funds; the State's Capital Assistance program, and from local sources. The typical split is 80% Federal, 5% to 15% State, and the remainder (5% to 15%) local. Federal funding comes first to the State and is distributed to transit agencies by DRPT.

Because VRT operates in several counties under an agreement with DRPT and because very little local funding comes from specific county sources, it is not possible to apportion costs and funding to individual transit services. Therefore, this TDP focuses only on the capital cost of buses that can be attributed directly to Loudoun County. Three expansion buses have been identified in FY 2012 that can be directly attributed to Loudoun County local transit service. It is assumed that these buses will be funded with 80% State Capital funds and 20% local funds that will be provided by Loudoun County (e.g. Transportation Fund, debt) or others (e.g. proffers).

7.3 Future Funding Sources

Although VRT currently operates local transit service in Loudoun County through an agreement with DRPT, it is not assured that VRT will be operating the local routes in the future. For the purposes of this TDP, it is assumed that whoever operates the local service, the current funding assumptions will apply in the future, unless otherwise noted.

However, there are two pressing issues with regards to future funding for Loudoun County transit services: 1) Definition of non-urbanized area; and 2) Availability of gasoline tax revenue when Metrorail reaches Loudoun County.

Definition of Non-urbanized Area

Currently, nearly half of local route and on-demand operating costs in Loudoun County are funded through FTA's Section 5311 program, with VRT as the operator/recipient. Funds from this program are to be used for service in non-urbanized areas based on U.S. Census data. The current urbanized areas were defined by the 2000 Census. Preliminary data from the 2010 Census has recently been released. It is not yet known how 2010 Census data will impact the urbanized area (UZA) boundary that is currently in place. It is anticipated that FY 2013 is the earliest year that a change in the UZA boundary could possibly impact funding from the 5311 program, according to FTA. Presently, Route 28 is used by the region as the definition of routes eligible for 5311 funds. A slight shift of this boundary to the west will likely have minimal impact on funding. A significant shift, however, could impact eligibility for several existing VRT routes.

As noted earlier, FTA gives states maximum discretion in allocating 5311 funds. As part of this TDP process, OTS staff met with DRPT staff to discuss future funding assumptions. DRPT staff indicated a willingness to continue funding existing Loudoun County local routes with 5311 program money during the TDP's six-year time period. Financial tables presented later in this section assume 5311 funding remains in place for existing VRT-operated routes. However, this TDP also includes recommendations for new routes. Funding assumptions do not assume application of 5311 funds for any new routes in the eastern portion of Loudoun County. Nevertheless, based on the 2010 Census, FTA could modify its formula programs to ensure that existing services continue to receive funding. Furthermore, a new Federal transportation bill is on the horizon that could affect FTA programs.

Availability of Gasoline Tax Revenue

Unlike other Northern Virginia jurisdictions, Loudoun County currently receives gasoline sales tax revenues generated within the county because the county is not a paying member of the WMATA Compact. The gasoline tax presently generates about $8 million a year for Loudoun County. For FY 2012, Loudoun County has budgeted about $4 million in gasoline tax to help fund transit operations (of which, $1.3 million will be gifted to VRT for the provision of local fixed route and on demand services), and another $1.0 million is planned for funding the LC Transit maintenance facility. In addition, the County uses gasoline tax revenues to fund other transportation capital projects within the county.

Metrorail service is to be extended into Loudoun County in FY 2017. It is anticipated that Loudoun County will be a paying member of the WMATA Compact at that time, and that all gasoline sales tax revenues will be transferred to Metrorail to offset operations costs in the county. This will adversely

impact LC Transit commuter and express operations, VRT local operations, and other county transportation programs and projects that are currently funded by the gasoline sales tax.

7.3.1 Future Funding Assumptions

For the purposes of this TDP, specific funding assumptions applied to the TDP's six-year time period are as follows:

LC Transit Commuter Services

1. *Gasoline Sales Tax.* It is assumed that gasoline tax revenues will continue to be used to fund portions of LC Transit commuter and express operations. It is difficult to forecast gasoline sales tax revenues due to the recent volatility of gasoline prices, state of the economy, and changing fuel efficiency of vehicles. Loudoun County, has provided the following projections of gasoline sales tax revenues through the TDP six-year time period:
   - FY 2011: $8,000,000
   - FY 2012: $8,709,000
   - FY 2013: $8,548,000
   - FY 2014: $8,647,000
   - FY 2015: $8,874,000
   - FY 2016: $9,074,000
   - FY 2017: $9,222,000

   As previously noted, gasoline sales tax revenues for FY 2017 are planned to be distributed to WMATA to subsidize Loudoun County Metrorail operations, per the WMATA Compact.

2. *State Mass Transit Trust Fund and Capital Assistance.* It is assumed that the State MTTF will continue to be allocated, using the existing formula, to Loudoun County commuter and express operations, and that Capital Assistance funds will continue to fund approximately 50% of vehicle lease purchases, bus expansion, and the new transit maintenance and operations facility. Information presented in the State's Six-Year Improvement Program (SYIP) indicates that funds collected for the State's Mass Transit Trust Fund for Operating Assistance generally are expected to grow by the following percentages over the TDP's six-year time period:
   - FY 2012: 3.60%
   - FY 2013: 4.03%
   - FY 2014: 4.11%
   - FY 2015: 4.26%
   - FY 2016: 3.18%

   Projections for FY 2017 are not yet available, but have been assumed at 3.85% for this TDP (the average percent increase between FY 2012 and FY 2016). It is important to note that this reflects projected percent increases in *total* revenues in the Mass Transit Trust Fund. Funds available for specific subprograms and transit agencies will vary, as funds are distributed by the State on a formula basis. For the purposes of this TDP, it is assumed funds available for Loudoun County will remain at the same percentage level within each program, but will increase by the overall increase in the MTFF noted in the above percentages.

3. *Farebox.* Fares for LC Transit through the TDP six-year time period are assumed to be:
    - Commuter Service: $7.00 with SmarTrip card/$8.00 cash
    - Tysons Express: $3.00 with a SmarTrip card and $3.50 cash
    - West Falls Church Connection Service: $1.75 with SmarTrip card/$2.25 cash
    - Intra-county fare: $1.00 cash
    - Non-intra-county Transfers: None. Passengers pay a fare with each boarding

    These fares are assumed to remain constant for the purposes of estimating future farebox revenues. Ridership projections in this TDP are derived from existing ridership productivity measures.

4. *Other Funds.* It is assumed that other sources will be used to fund specific projects as specified in Loudoun County's FY 2012 Capital Improvement Program (CIP). These funding sources include Federal CMAQ (for park and ride lots and transit centers), debt service (for vehicle lease purchase), and proffers (for bus expansion). The CIP also identifies other local transportation funds that have already been programmed/committed to specific projects.

Local Transit and ADA/Demand Response Services

- *FTA 5311 Formula.* It is assumed that 5311 funds will continue to provide funding for 50% of the cost (net of fare revenue and JARC funding) for routes presently operated by VRT and funded by the 5311 program. It is assumed that 5311 funds will continue to contribute 50% of the funding to rural-designated routes (i.e. existing routes now operated by VRT), but that planned routes that operate in the urbanized area will not be eligible for 5311 funds.

- *Job Access and Reverse Commute (FTA 5316).* It is assumed that the Route 7 Corridor services currently funded with JARC funds will continue to be funded by JARC, with funds from that program increasing at a rate consistent with inflation. It is possible that planned routes that operate in the urbanized area and are not eligible for 5311 funds could potentially receive JARC funds. These routes include Sterling/Fairfax, Atlantic/Pacific Circulator, and the Dulles South to Route 606 Station route. However, this assumption has not been included in the TDP.

- *State Mass Transit Trust Fund and Capital Assistance.* VRT is currently a direct recipient of State MTTF formula funds for Loudoun County service. It is assumed those funds will increase at the same percentage rates noted under LC Transit Commuter service. It is assumed that State Capital Assistance funds will be available to fund 50% of local expansion bus costs.

- *Gasoline Sales Tax.* As previously noted, Loudoun County partially subsidizes local transit service with gasoline sales tax funds. It is assumed that this practice will continue until 2017. Anticipated future revenues from the gasoline sales tax were previously noted under LC Transit Commuter service.

- *Farebox.* Fares for local service through the TDP six-year time period are assumed to be:
    - Local Service: $0.50
    - West Falls Church Express: $1.75
    - The Leesburg Trolley and Leesburg Safe-T-Ride: Free
    - Demand Response: $1.00 to $3.00 based on three-zone system

These fares are assumed to remain constant for the purposes of estimating future farebox revenues. Ridership projections in this TDP are derived from existing ridership productivity measures.

- *Other Revenues.* VRT receives other revenues from sources such as the Towns of Purcellville and Leesburg, and from private sources (e.g., George Washington University and Howard Hughes Medical Institute for partial funding of the West Falls Church Express). These revenues are assumed to remain in place and grow at rates consistent with inflation irrespective of what transit agency/contractor operates local service in the future. It is also assumed that funds from Loudoun County or another local source(s) would be available as a match to State Capital Assistance funds for the purchase of expansion buses since ownership of the buses is yet to be determined. It should be noted that no assumptions have been made for funding of other local capital costs, such as route signage and maintenance facility costs, as these expenditures cannot be easily isolated for Loudoun County service. It is expected that Loudoun County's share of these expenditures would be minimal, even if they could be isolated, because 90% of these capital costs are generally funded with State and Federal sources.

7.4 Operating and Capital Balance Sheets

One of the objectives of the TDP is to demonstrate that the operator is planning a sustainable level of transit service over the planning period, including rehabilitation and replacement of capital assets. This section provides balance sheets for Commuter Operating, Commuter Capital, Local Operating, and Local Capital. The balance sheets match estimated annual funding against estimated annual costs to demonstrate that no negative balances are anticipated over the planning period. Amounts are presented in year-of-expenditure (YOE) dollars that take into account assumed growth and inflation rates. The annual inflation rate is assumed to be 3.0%. Growth rates for specific cost items or funding sources were described in previous sections.

7.4.1 LC Transit Commuter Operating

Table 7-1 presents a balance sheet of O&M costs and likely revenues for LC Transit services. Annual O&M costs have been broken into: commuter & express services, Tysons service and administrative expenses. Key assumptions in this table are as follows:

- Costs for FY 2012 are based on LC Transit's proposed operating budget, but do not include vehicle depreciation/replacement or lease purchase costs (those costs fall under capital costs and revenues).
- Costs for new LC Transit services reflect costs previously presented in Chapter 5.
- An annual inflation rate of 3% has been assumed in the cost estimates.
- Farebox revenues are based on ridership projections and average fare per passenger trip, which vary by type of service (commuter, express, Tysons).
- The average fare per passenger trip is assumed to remain constant through FY 2016.
- State Mass Transit Trust funds are assumed to increase annually at levels previously noted in this Chapter.

- Tysons Express service will no longer be funded by the Dulles Metrorail TMP beginning in FY 2014, upon completion of Metrorail service to Wiehle Avenue. Costs for the continuation of Tysons Express service are assumed to be transferred to Loudoun County at that time.

Table 7-1
LC Transit Annual O&M Costs and Potential Revenue Sources
(Year of Expenditure Dollars)

Service Costs/Funding Category	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs						
Commuter & Express Service (not incl. vehicle replace.)	$8,515,800	$9,102,300	$9,216,900	$9,844,600	$10,139,900	$9,438,700
Tysons Service	$1,054,300	$1,085,900	$848,000	$873,400	$899,600	$0
Administrative Expenses	$254,200	$261,800	$269,700	$277,800	$286,100	$294,700
Total Expenses	**$9,824,300**	**$10,450,000**	**$10,334,600**	**$10,995,800**	**$11,325,600**	**$9,733,400**
Net change from Prior Year	*$1,707,500*	*$625,700*	*($115,400)*	*$661,200*	*$329,800*	*($1,592,200)*
Anticipated Non-Gas Tax Funding Sources						
Fare Revenue						
Commuter Fare Revenue	$6,333,800	$7,392,000	$7,744,800	$8,097,600	$8,097,600	$5,947,200
Express Fare Revenue	$247,000	$288,300	$273,000	$273,000	$273,000	$584,000
Tysons Fare Revenue	$151,200	$189,000	$156,000	$156,000	$156,000	$0
Total Fare Revenues	**$6,732,000**	**$7,869,300**	**$8,173,800**	**$8,526,600**	**$8,526,600**	**$6,531,200**
Farebox Recovery Ratio (percentage of fares that cover O&M costs)	*68.5%*	*75.3%*	*79.1%*	*77.5%*	*75.3%*	*67.1%*
State/TMP Funds						
Dulles Metrorail TMP - Tysons	$903,100	$939,500	$0	$0	$0	$0
State Mass Transit Fund - Commuter & Express	$1,100,000	$1,139,600	$1,185,500	$1,234,200	$1,286,800	$1,327,700
Total State Funds	**$2,003,100**	**$2,079,100**	**$1,185,500**	**$1,234,200**	**$1,286,800**	**$1,327,700**
Required Gas Tax or Local Other Funds	**$1,089,200**	**$501,600**	**$975,300**	**$1,235,000**	**$1,512,200**	**$1,874,500**
Inflation Factor	1.03					

Notes on Assumptions
- O&M Costs do not include vehicle replacements or lease purchase costs of vehicles. See Capital plan.
- Fare revenue based on ridership and current fare policy. See Appendix D for ridership data.
- Average fare of $9.21 needed for Commuter service in FY2017 to offset estimated loss in gasoline tax funds.

Sources
- National Transit Database (NTD) reports, Loudoun County budgets, and estimates made for the TDP.
- Data reported as combined when source data could not be separated.

It is important to note that the projected funds required in FY 2017 ($1,874,500) would need to be met by sources other than local gas tax funds, for those funds are anticipated to be diverted to WMATA for Loudoun County Metrorail service at this time. The footnotes for Table 7-1 state that an average commuter fare of $9.21 would be needed to "zero out" required local funds in 2017.

7.4.2 Local and ADA/Demand Response Operating

Table 7-2 presents a cash flow analysis of O&M costs and likely revenues for local transit, ADA and demand response services in Loudoun County. Key assumptions in this table are as follows:

- Costs for FY 2012 have been broken-out for Loudoun County and Leesburg-based routes, based on an estimate of revenue bus-hours by route. ADA/Demand Response-related hours were also estimated based on the estimated split of fixed route bus-hours.
- Costs for new local route services reflect costs previously presented in Chapter 5.
- ADA and demand response-related costs are assumed to increase at the same rate as fixed route costs.

- An annual inflation rate of 3% has been assumed in the cost estimates.
- Farebox revenues are based on ridership projections and average fare per passenger trip, which vary by type of service (Leesburg, Loudoun County, ADA/Demand Response services).
- The average fare per passenger trip is assumed to remain constant through FY 2017.
- FTA 5311 funds are assumed to fund 50% of costs net of fare revenue for rural-designated routes.
- JARC funds are assumed to increase at a rate that keeps pace with inflation.
- State Mass Transit Trust funds are assumed to increase annually at levels previously noted in this chapter.
- Funding from other sources is assumed to increase at a rate that keeps pace with inflation.

Table 7-2
Local and ADA/Demand Response O&M Costs and Potential Revenue Sources
(Year of Expenditure Dollars)

Service Costs/Funding Category	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs						
County Fixed-Route Service (Estimated)	$3,252,200	$3,710,500	$4,930,900	$5,223,200	$5,379,900	$7,053,400
County ADA & D.R. Service (Estimated)	$990,800	$1,130,400	$1,502,200	$1,591,200	$1,638,900	$2,148,700
Total County-Funded Services (Estimated)	$4,243,000	$4,840,900	$6,433,100	$6,814,400	$7,018,800	$9,202,100
Leesburg Fixed Route Service (Estimated)	$935,500	$963,600	$992,500	$1,022,300	$1,053,000	$1,084,600
Leesburg Fixed ADA & D.R. Service (Estimated)	$285,000	$293,600	$302,400	$311,500	$320,800	$330,400
Total Leesburg-Funded Services (Estimated)	$1,220,500	$1,257,200	$1,294,900	$1,333,800	$1,373,800	$1,415,000
Total Expenses	**$5,463,500**	**$6,098,100**	**$7,728,000**	**$8,148,200**	**$8,392,600**	**$10,617,100**
Net change from Prior Year	*$632,777*	*$634,600*	*$1,629,900*	*$420,200*	*$244,400*	*$2,224,500*
Anticipated Funding Sources						
Fare Revenue						
County Route Fare Revenue	$130,200	$144,300	$212,100	$221,400	$221,400	$318,800
Leesburg Route Fare Revenue	$25,500	$25,500	$25,500	$25,500	$25,500	$25,500
ADA/D.R. Fare Revenue	$6,500	$7,200	$9,600	$10,100	$10,100	$13,000
Total Fare Revenues	**$162,200**	**$177,000**	**$247,200**	**$257,000**	**$257,000**	**$357,300**
Farebox Recovery Ratio (percentage of fares that cover O&M costs)	*3.0%*	*2.9%*	*3.2%*	*3.2%*	*3.1%*	*3.4%*
Federal Funds						
FTA 5311 Non-Urbanized Area Funds	$1,988,300	$2,156,700	$2,221,400	$2,360,200	$2,431,000	$2,747,200
Job Access & Reverse Commute (JARC) Funds	$500,500	$515,500	$531,000	$546,900	$563,300	$580,200
Total Federal Funds	**$2,488,800**	**$2,672,200**	**$2,752,400**	**$2,907,100**	**$2,994,300**	**$3,327,400**
State Mass Transit Trust Fund	**$585,200**	**$608,800**	**$633,800**	**$660,800**	**$681,800**	**$708,000**
Other Funds						
Town of Leesburg	$213,500	$219,900	$226,500	$233,300	$240,300	$247,500
Towns of Purcellville & Lovettsville	$18,500	$19,100	$19,700	$20,300	$20,900	$21,500
JARC Private Matches	$209,100	$215,400	$221,900	$228,600	$235,500	$242,600
Fairfax County	$24,800	$0	$0	$0	$0	$0
Air & Space Museum	$24,800	$0	$0	$0	$0	$0
Total Other Funds	**$490,700**	**$454,400**	**$468,100**	**$482,200**	**$496,700**	**$511,600**
Loudoun County Gas Tax or Other County Funds	**$1,736,600**	**$2,185,700**	**$3,626,500**	**$3,841,100**	**$3,962,800**	**$5,712,800**

Inflation Factor 1.03

Notes on Assumptions

- O&M Costs for FY2011 split between Loudoun and Leesburg based on estimated split in hours for Leesburg/non-Leesburg routes.
- ADA/Demand Response hours based on 2010 National Transit Database (NTD), and then proportioned between County/City based on split in Fixed Route hours.
- Total expenses do not include expenses VRT reported for "Other" in 2010 NTD (e.g. Foggy Bottom routes, etc.).
- Ridership based on estimates of riders/hour. Leesburg riders/hour not assumed to grow above current levels. County riders/hour assumed to grow as Metrorail gets extended. ADA/Demand Response ridership assumed to grow proportionately with Fixed Route. See Appendix D for ridership data.
- 5311 funds for 2010 based on NTD, and for 2011 based on Six-Year Improvement Program (SYIP). For future years, 3% increase in prior year funding assumed, plus 50% of new eligible costs.
- Job Access & Reverse Commute (JARC funds) based on NTD for FY2010 and SYIP for FY2011. Assumed growth in funds (and related costs) keeps up with inflation.
- State Mass Transit Fund based on 2010 NTD and 2011 SYIP, and then grown by state fund increase.
- Other funds/town contributions based on March 2, 2011 e-mail from Kathy Finniff for 2010. Assumes FY2010 amounts increase with inflation, except Fairfax & Air & Space funding in 2013 is eliminated when route no longer operates.
- Loudoun County Gas Tax or Other Funds based on need.
- Fare revenue does not assume the elimination of free transfers that was scheduled to occur on 04-01-2011.

Sources

- National Transit Database (NTD) reports, Loudoun County and VRT budgets, and estimates made for the TDP.
- Data reported as combined when source data could not be separated.

The last row in Table 7-2 presents gasoline sales tax funds and/or other county funds needed to cover remaining funding needs. The $5,712,800 identified for FY 2017 will need to come from sources other than local gas tax funds. A break-out of Loudoun County and Leesburg routes (costs and funding sources has been estimated as part of this TDP work effort, and is provided in Appendix D.

7.4.3 LC Transit Commuter Capital

Table 7-3 presents estimated capital costs and potential funding sources for LC Transit. Key assumptions in this table are as follows:

- Costs have been identified for vehicle replacement (depreciation of existing buses), vehicle lease/purchases, bus expansion, the Transit Operations and Maintenance Facility (TOMF), park-and-ride lots and transit centers, and other miscellaneous capital expenditures. These costs were provided in Chapter 6 of this TDP.
- The Bus replacement fund assumes 100% funding from a combination of gasoline tax and fares.
- Bus lease purchase costs are financed through state capital assistance and debt service.
- Bus expansion costs generally assume 50% funding from the State and 50% funding from local funds.
- The transit maintenance facility assumes 50% state funding and 50% from committed local transportation funds.
- Park and ride facilities assume 100% CMAQ (with VDOT-match) funds.

A total of $31.5 million in capital expenditures has been identified for the TDP's six-year time period. A total of $10.1 million has been identified as being needed from gas tax or other local funds. As was noted under operations costs, local gas tax funds will not be available in FY 2017 to cover the anticipated need for $863,100 in that fiscal year.

Table 7-3
LC Transit Capital Expenditures and Potential Revenue Sources
(Year of Expenditure Dollars)

Capital Costs/Funding Category	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
EXPENDITURES						
Bus Replacement Fund	$1,428,390	$1,322,460	$1,322,460	$1,538,459	$1,538,459	$863,100
Lease Purchase	$725,915	$716,407	$273,199	$263,041	$252,524	$242,008
Bus Expansion and Related Capital	$1,670,000	$1,164,000	$1,199,000	$1,235,000	$0	$0
Maintenance Facility	$9,900,000	$1,800,000	$0	$0	$0	$0
Park-and-Ride Lots/Transit Centers	$1,000,000	$0	$3,000,000	$0	$0	$0
Total Expenditures	**$14,724,305**	**$5,002,867**	**$5,794,659**	**$3,036,500**	**$1,790,983**	**$1,105,108**
Expansion Buses	*3 buses*	*2 buses*	*2 buses*	*2 buses*		
FUNDING						
Anticipated Non-Gas Tax Funding Sources						
Congestion Mitigation & Air Quality (CMAQ)	$1,000,000	$0	$3,000,000	$0	$0	$0
State Capital Assistance	$5,986,500	$1,880,075	$752,299	$764,737	$139,766	$133,946
Debt service	$525,915	$319,892	$121,990	$117,454	$112,758	$108,062
Proffers	$540,000	$0	$0	$0	$0	$0
Committed Local Transportation Funds	$4,950,000	$900,000	$0	$0	$0	$0
Total Non-Gas Tax Funds	**$13,002,415**	**$3,099,967**	**$3,874,289**	**$882,191**	**$252,524**	**$242,008**
Required Gas Tax or Local Other Funds	**$1,721,890**	**$1,902,900**	**$1,920,370**	**$2,154,309**	**$1,538,459**	**$863,100**

Sources
• Loudoun County Capital Improvement Plans (CIPs), budgets, depreciation and debt service schedules, and estimates made for the TDP.

7.4.4 Local and ADA/Demand Response Capital

Table 7-4 presents estimated capital costs and potential funding sources for local and ADA/demand response services. Key assumptions in this table are as follows:

- Costs have been identified only for vehicle expansion needs for new local route services that can be attributed to Loudoun County. Bus requirements and costs for those buses were provided in Chapter 6 of this TDP.
- Funding for these buses assume 80% from the State and 20% from local sources.
- Local gasoline tax revenues are not assumed to be available in FY 2017.

A total of $6.1 million of capital expenditures has been identified for the TDP's six-year time period. As was noted in prior sections, local gas tax funds will not be available in FY 2017 to cover the anticipated need for $347,800 in that fiscal year.

Table 7-4
Local Service Capital Expenditures and Potential Revenue Sources
(Year of Expenditure Dollars)

Capital Costs/Funding Category	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
EXPENDITURES						
Bus Expansion	$900,000	$309,000	$3,183,000	$0	$0	$1,739,000
Expansion Buses	*3 buses*	*1 bus*	*10 buses*			*5 buses*
FUNDING						
Anticipated Non-Gas Tax Funding Sources						
State Capital Assistance	$720,000	$247,200	$2,546,400	$0	$0	$1,391,200
Other Funds Required (Local Transportation, Proffers, etc.)	**$180,000**	**$61,800**	**$636,600**	**$0**	**$0**	**$347,800**

Notes on Assumptions
- Expenditures include only bus expansion. Does not include other capital costs not directly related to Loudoun (e.g. maintenance facility, real estate, etc.).
- Ownership of buses has not been determined. It is assumes that Loudoun County or others will fund local share of expansion buses. Federal grants may be available depending on ownership.

Sources
- Department of Rail and Public Transportation (DRPT) Six-Year Improvement Program (SYIP), VRT budgets, and estimates made for the TDP.

7.5 Summary of County Transit Funding Requirements

Table 7-5 presents a summary of combined operating and capital costs and anticipated funding sources for the TDP's six-year time period. Annual transit-related funding needs from the local gas tax and other county sources vary by year. Beginning in FY 2014 through 2016, funding needs will increase as new services are proposed to be added, and existing services are expanded. Sources for this additional funding will need to be identified. In FY 2017, an estimated $8.8 million will be needed from some other local funding source, assuming local gasoline sales tax revenues are committed to Metrorail at that time. That amount can be reduced by $1.9 million, should LC Transit commuter fares be raised to a level that "zeros out" local funding needs for commuter service O&M costs.

It is also important to note that Loudoun County will have a number of retirement-eligible commuter coaches in FY 2017 as some of its original fleet will have reached the end of their useful life. In addition, this TDP has assumed a 20% reduction in commuter bus service in 2017, although the actual reduction is yet to be determined. Sales of retirement-eligible commuter coaches combined with vehicle replacement funds may be used to subsidize transit expenditures in 2017.

Table 7-5
Gasoline Tax Revenue Projections and County-Funded Transit Needs

OPERATIONS Service Costs/Funding Category	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs						
Commuter, Express, and Tysons	$9,824,300	$10,450,000	$10,334,600	$10,995,800	$11,325,600	$9,733,400
Local Fixed Route, Demand Response, and Leesburg	$5,463,500	$6,098,100	$7,728,000	$8,148,200	$8,392,600	$10,617,100
Total Expenses	**$15,287,800**	**$16,548,100**	**$18,062,600**	**$19,144,000**	**$19,718,200**	**$20,350,500**
Net change from Prior Year	*18.1%*	*8.2%*	*9.2%*	*6.0%*	*3.0%*	*3.2%*
Anticipated Non-Gas Tax Funding Sources						
Fare Revenues						
Commuter, Express, and Tysons	$6,732,000	$7,869,300	$8,173,800	$8,526,600	$8,526,600	$6,531,200
Local Fixed Route, ADA, and Leesburg	$162,200	$177,000	$247,200	$257,000	$257,000	$357,300
Total Fare Revenues	**$6,894,200**	**$8,046,300**	**$8,421,000**	**$8,783,600**	**$8,783,600**	**$6,888,500**
Federal Funds (excludes Commuter & Leesburg routes)	$2,488,800	$2,672,200	$2,752,400	$2,907,100	$2,994,300	$3,327,400
State/TMP Funds	$2,588,300	$2,687,900	$1,819,300	$1,895,000	$1,968,600	$2,035,700
Other Funds	$490,700	$454,400	$468,100	$482,200	$496,700	$511,600
Total Non-Gasoline Tax Funds	**$12,462,000**	**$13,860,800**	**$13,460,800**	**$14,067,900**	**$14,243,200**	**$12,763,200**
Required Gas Tax or Local Other Funds	**$2,825,800**	**$2,687,300**	**$4,601,800**	**$5,076,100**	**$5,475,000**	**$7,587,300**

CAPITAL Capital Costs/Funding Category	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
EXPENDITURES						
Commuter, Express, and Tysons	$14,724,305	$5,002,867	$5,794,659	$3,036,500	$1,790,983	$1,105,108
Local Fixed Route, Demand Response, and Leesburg	$900,000	$309,000	$3,183,000	$0	$0	$1,739,000
Total Expenditures	**$15,624,305**	**$5,311,867**	**$8,977,659**	**$3,036,500**	**$1,790,983**	**$2,844,108**
FUNDING						
Anticipated Non-Gas Tax Funding Sources						
Federal Grants	$1,000,000	$0	$3,000,000	$0	$0	$0
State Capital Assistance	$6,706,500	$2,127,275	$3,298,699	$764,737	$139,766	$1,525,146
Other Funds	$6,015,915	$1,219,892	$121,990	$117,454	$112,758	$108,062
Total Non-Gasoline Tax Funds	**$13,722,415**	**$3,347,167**	**$6,420,689**	**$882,191**	**$252,524**	**$1,633,208**
Required Gas Tax or Local Other Funds	**$1,901,890**	**$1,964,700**	**$2,556,970**	**$2,154,309**	**$1,538,459**	**$1,210,900**
Combined Operating and Capital:						
Required Gas Tax or Local Other Funds	**$4,727,690**	**$4,652,000**	**$7,158,770**	**$7,230,409**	**$7,013,459**	**$8,798,200**

Work completed as part of the *2010 CTP* identified the following possible sources that could address the anticipated transit funding gap beginning in FY 2014:

- Traditional taxes and Fees
  - General revenues from local and county governments
  - Sales taxes that are dedicated to transit or committed through annual budget processes
  - Property taxes that are dedicated to transit or committed through annual budget processes
  - Contract or purchase of service revenues from public and private entities
  - Lease revenues, largely from property owned by the County
  - Advertising revenues
  - Concession fees
  - Vehicle fees, such as title, registration, tags and inspection fees

- Business activity taxes and fees
    - Payroll taxes on local businesses
    - Car rental fees
    - Vehicle lease fees
    - Parking fees at facilities owned by the County
    - Mortgage recording and realty transfer taxes
    - Room occupancy taxes
    - Corporate franchise and business license fees
- Revenue streams from projects – income captured from assessments of varying kinds on new development
- "User" and market-based taxes and fees - includes measures such as road tolling, congestion pricing, emissions fees and fees based on vehicle miles of travel
- Financing mechanisms - borrowing or debt mechanisms. Typically used to support major capital projects rather than ongoing transit operations

In addition to the potential new revenue sources identified above, consideration was given to potential funding from federal programs. LC Transit does not presently receive federal funds. FTA's Section 5307 program provides funding assistance for urbanized areas (UZAs). For UZAs with more than 200,000 in population, 5307 funds can be used only for capital assistance, although some maintenance costs can be capitalized, and thus funded with 5307 monies. The Metropolitan Washington Council of Governments is the designated recipient of 5307 funds in metropolitan Washington, D.C. The total 5307 apportionment to MWCOG in 2010 was $161.8 million. An annual "split letter" is prepared each year to split 5307 funds between WMATA, Virginia Railway Express (VRE), PRTC and Fredericksburg Regional Transit (FRED). Other operators, such as the Fairfax Connector, the City of Fairfax, Arlington and Alexandria do not receive 5307 funds.

It may be possible for Loudoun County to participate in the 5307 program as a potential source of additional revenues. However, there are several obstacles associated with Loudoun County becoming a recipient of federal funds, including but not limited to:

- Compliance with state law regarding receipt of federal funds, which may require LC Transit to become a separate entity or subsidiary from the County.
- Additional federal-required reporting, including more detailed NTD input, and related ridership sampling.
- Triennial reviews that assess grantee performance and adherence to current FTA requirements and policies.
- Annual Certifications and Assurances that are mandated by FTA each year.
- Compliance with other federal programs and FTA regulations, including but not limited to:
    - Protections for Public Transportation Employees.
    - Drug Use and Testing and Alcohol Misuse and Testing
    - Accessibility.
    - Protection of Animals.
    - Charter Service Restrictions.
    - School Bus Restrictions.

There is no certainty that Loudoun County will be able to receive a portion of the region's 5307 apportionment (as is the case with many other local transit operators). This will require negotiation with the entities that presently receive 5307 funds. For the purposes of this TDP, it has been assumed that Loudoun County will continue to be a non-recipient of federal transit funds.

8.0 TDP MONITORING AND EVALUATION

This TDP has presented a comprehensive evaluation of Loudoun County Transit's service and cost characteristics. Key elements that have been addressed in this TDP include:

- Development of goals, objectives and potential performance standards that are to guide further development of Loudoun County commuter and express services, and the provision of local transit services;
- A detailed evaluation of existing commuter/express and local service characteristics, with identification of system strengths and weaknesses;
- A peer agency review that compares commuter/express and local service and financial characteristics to other similar-sized systems;
- A summary of rider survey results from the 2*010 CTP*;
- A listing of potential service and facility improvements, for consideration in the TDP, based on improvements identified in the *2010 CTP*;
- Recommended service improvements and vehicle purchases for inclusion in the TDP, with improvements identified by year; and
- Funding requirements and potential funding sources for recommended service improvements, vehicle purchases and other capital facility-related improvements.

This TDP reflects an initial step in future service improvements for Loudoun County. It will be important to coordinate closely with other transportation and land use planning efforts, to continue to monitor service performance, and to provide DRPT with annual updates regarding implementation of TDP service and facility improvements.

8.1 Coordination with Other Plans and Programs

Close coordination is required with the County's Capital Improvements Program budgeting process. Coordination efforts will also be required with MWCOG, NVTC and WMATA as Metrorail service is extended into Loudoun County.

8.2 Service Performance Monitoring

This TDP has suggested the consideration of service performance measures to ensure LC Transit and local route service performance characteristics continue to remain strong. The establishment of such measures requires input from CBAB and VRT. This type of monitoring program could be used for periodic service evaluation.

8.3 Replacement of Local Gasoline Tax Funds

Chapter 7 of this TDP has noted the need to replace local gasoline sales tax funding in FY 2017 (the last year of the TDP time period), when Metrorail is to be extended into Loudoun County (funds generated by the local gasoline sales tax are anticipated to go towards subsidizing Metrorail service at that time). The loss of these funds affects not only transit services, but also other County transportation programs and projects. This TDP has identified potential new funding sources for consideration. More extensive

study will be required to determine how local gasoline tax funds should be replaced beginning in FY 2017.

8.4 Annual TDP Monitoring

DRPT will require submittal of an annual letter that provides updates to the contents of this TDP. Recommended contents of this "TDP Update" letter include:

- A summary of ridership trends for the past 12 months.
- A description of TDP goals and objectives that have been advanced over the past 12 months.
- A list of improvements (service and facility) that have been implemented in the past 12 months, including identification of those that were noted in this TDP.
- An update to the TDP's list of recommended service and facility improvements (e.g., identify service improvements that are being shifted to a new year, being eliminated, and/or being added). This update of recommended improvements should be extended one more fiscal year to maintain a six-year planning period.
- A summary of current year costs and funding sources.
- Updates to the financial plan tables presented in Chapter 7 of this TDP; these tables should be extended one more fiscal year to maintain a six-year planning period. The financial plan is a principal objective of the TDP. It is in this chapter that an agency demonstrates its ability to provide a sustainable level of transit service over the TDP time period, including the rehabilitation and replacement of capital assets. This chapter identifies potential funding sources for annual operating and maintenance costs, and funding requirements and funding sources for bus and service vehicle purchases.

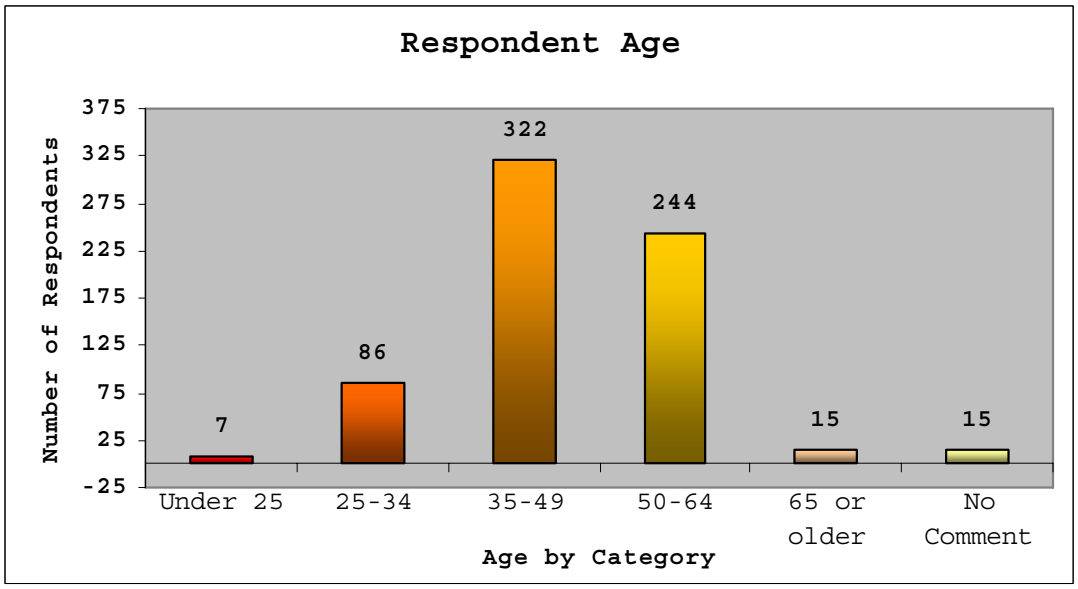
APPENDIX A
COMMUTER BUS RIDER SURVEY

Loudoun County Transit Plan
Commuter Bus Survey Results

An online survey was conducted assessing the habits and opinions of Loudoun County commuter bus riders. A total of 718 surveys were collected. The survey questions focused on 3 main categories of data: rider profile, typical/daily rider habits, and rider opinions/perception of the commuter bus service. The report below summarizes this data using tables, charts, and figures drawn from the survey results. Many of the results are broken down by the three types of service: Commuter, Reverse Commute and Cascades. Among the respondents, 625 primarily ride Long Haul service; 30 ride Reverse Commute, and 56 ride Cascades (7 indicated "other" for this question).

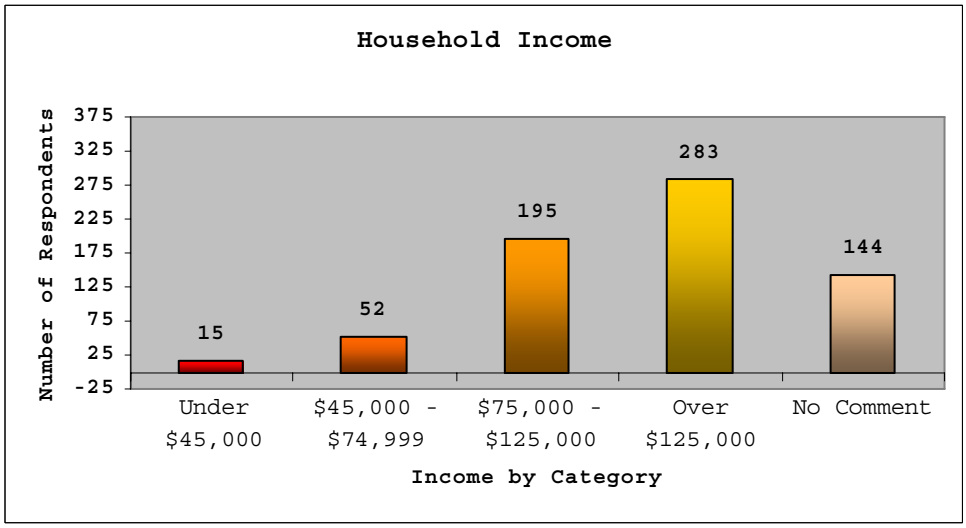
Rider Profile

A brief personal profile was requested of each survey respondent. Profile questions targeted the areas of gender, age, income and job type. In this case, about 54% of respondents reported their gender as male, 44% female, and 2% had no comment. The age of respondents falls primarily within the range of 35 – 64. Specifically, age was recorded based on 5 categories: under 25, 25 to 34, 35 to 49, 50 to 64, and 65+. The age range of 35 – 49 accounted for 47% of respondents, ages 50 – 64 totaled 35%. The details of these results can be seen more clearly in the adjacent chart.

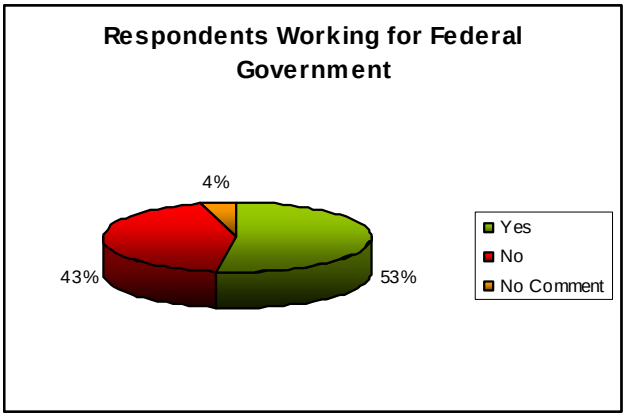


Income level was also assessed as part of the respondent profile. Income level was also categorized, much like respondent age. Household income was divided in to 4 groups: Under $45, 000, $45 – 74,999, $75 – 125,000, and $125,000+. As shown in the

chart below, most respondents were in the income categories above $75,000 per year, though many of the respondents (21%) chose not to answer this question.



The rider profile section of the survey also identified the share of respondents working for the federal government. Findings show that over half of Loudoun County commuter survey respondents work for the federal government.



Rider Habits

The survey queried rider habits to get a better understanding of usage and location patterns. In so doing, questions were asked regarding bus run used, location of bus pickup, trip origin, time of origin, trip destination, method of transportation used from origin, and method of transportation used to reach destination. A table of respondents by bus run is provided at the end of the report.

Riders were asked to identify the origin and destination of their morning commute trip by specific location including zip code. The origin and destination reflect the door-

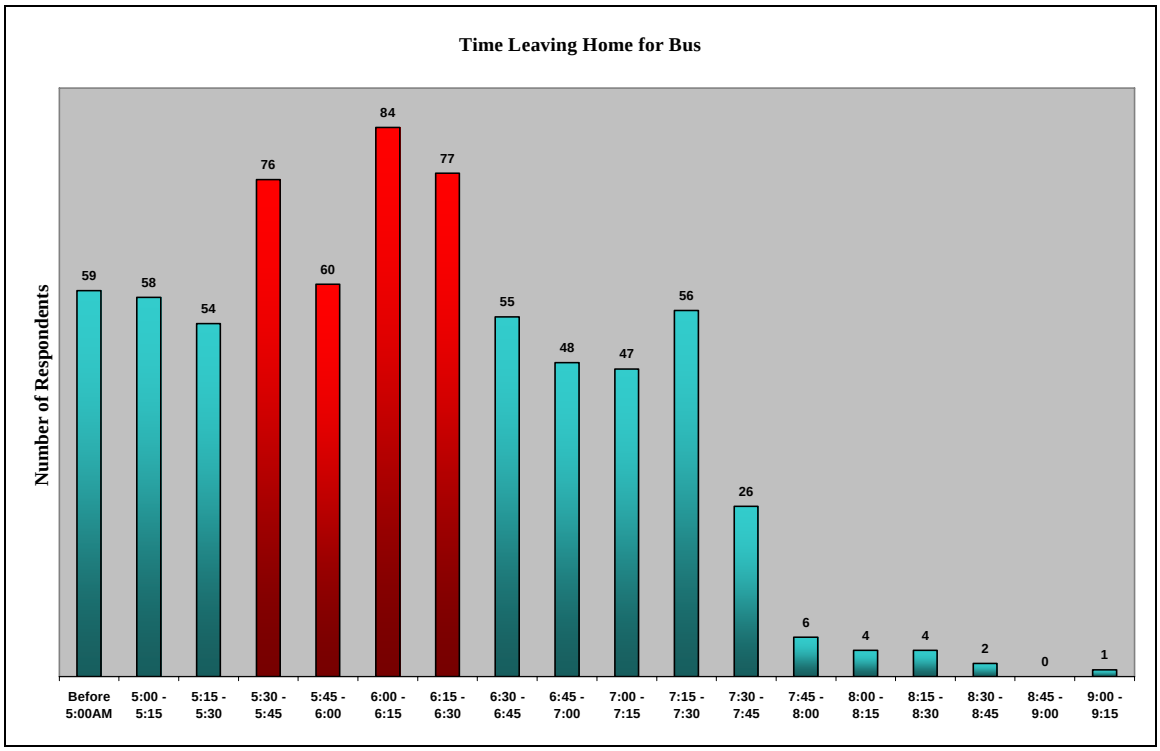
to-door commute trip, including travel before and after the bus ride. This information will be included in the Market Analysis report for the Transit Plan.

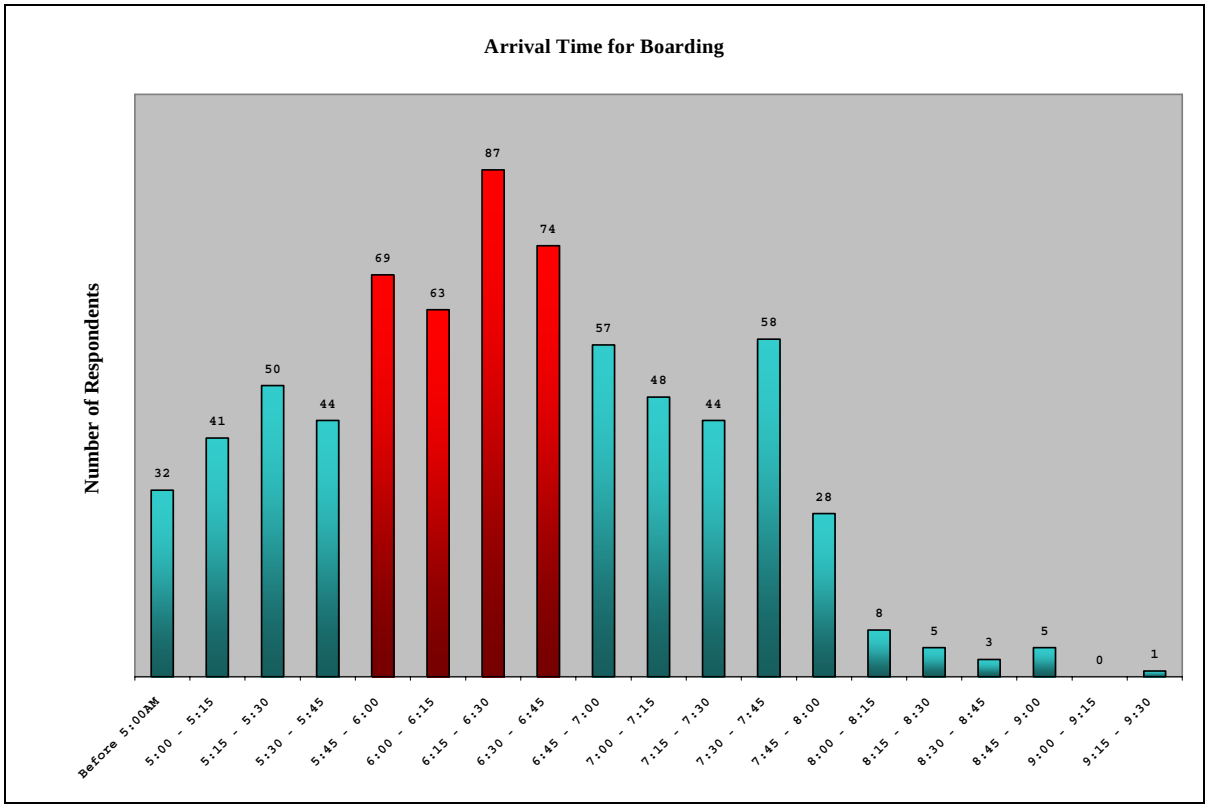
The charts on the following page show the time patterns of survey respondents. The first chart identifies a peak period of 5:30 a.m. – 6:30 a.m. for individuals leaving their homes for the commuter bus pickup area. About 41% of respondents leave their homes during this time period, which is shown with red or darker bars. The second chart (below) shows the arrival time of survey respondents for boarding the commuter bus. This peak period is from 5:45 a.m. – 6:45 a.m., approximately a 15-minute lag behind the peak times for departure from home.

The multimodal connections for commuters were also investigated. Respondents were asked to select up to two modes representing their travel from origin to bus and from bus to their ultimate destination, revealing contrasting modes at each end of the commuter bus trip. A large majority of respondents use cars to reach the pick up point for the Long Haul bus, while the Cascades riders either drive, ride by car or walk. As would be expected, most of the Reverse Commute riders use Metrorail and/or other transit to access Loudoun County Transit, though 33% either drive or ride in a car for at least part of their trip. In addition to the notable share of walk trips (36%) to Cascades service, survey results indicate that 5% of Cascades respondents ride a bike to the bus. These results are shown in the following table.

Percent of Respondents* Mode of Travel to Bus	**Long Haul Service**	**Reverse Commute**	**Cascades**
Drive in car and park	96.9%	23.3%	78.6%
Ride in car and get dropped off	10.0%	10.0%	10.7%
Walk	3.1%	6.7%	35.7%
Metrorail	0.3%	73.3%	3.6%
Carpool to lot and park	1.4%	0.0%	0.0%
Other Transit	0.5%	23.3%	0.0%
Bike	0.6%	0.0%	5.4%
Taxi	0.2%	3.3%	0.0%
Other	0.3%	16.7%	0.0%

*Respondents provided up to two answers; total does not sum to 100%


Time Leaving Home for Bus
Number of Respondents
59
58
54
76
60
84
77
55
48
47
56
26
6
4
4
2
0
1
Before 5:00AM
5:00 - 5:15
5:15 - 5:30
5:30 - 5:45
5:45 - 6:00
6:00 - 6:15
6:15 - 6:30
6:30 - 6:45
6:45 - 7:00
7:00 - 7:15
7:15 - 7:30
7:30 - 7:45
7:45 - 8:00
8:00 - 8:15
8:15 - 8:30
8:30 - 8:45
8:45 - 9:00
9:00 - 9:15


Arrival Time for Boarding
Number of Respondents
32
41
50
44
69
63
87
74
57
48
44
58
28
8
5
3
5
0
1
Before 5:00AM
5:00 - 5:15
5:15 - 5:30
5:30 - 5:45
5:45 - 6:00
6:00 - 6:15
6:15 - 6:30
6:30 - 6:45
6:45 - 7:00
7:00 - 7:15
7:15 - 7:30
7:30 - 7:45
7:45 - 8:00
8:00 - 8:15
8:15 - 8:30
8:30 - 8:45
8:45 - 9:00
9:00 - 9:15
9:15 - 9:30

Once departed from the bus, the majority of respondents travel in one (or both) of two modes to their final destination: walk or take Metrorail. The table that follows describes the modes for each service. While walking and Metrorail account for most of the modes used at the destination end of all three services, the distribution among modes does vary by service type. Most of the Cascades riders use Metrorail, while most of the Long Haul and Reverse Commute riders walk to their destinations. Notably, 13% of Reverse Commute riders selected "other" as a mode for all or part of the travel from the bus to their destinations.

Percent of Respondents* Mode of Travel from Bus to Destination	**Long Haul Service**	**Reverse Commute**	**Cascades**
Walk	90.2%	73.3%	35.7%
Metrorail	11.3%	13.3%	82.1%
Other Transit	1.9%	3.3%	7.1%
Bike	0.2%	0.0%	1.8%
Taxi	0.2%	3.3%	0.0%
Drive/Ride in Car that was parked	4.3%	3.3%	5.4%
Get picked up in car	1.0%	3.3%	1.8%
Other	0.8%	13.3%	1.8%

*Respondents provided up to two answers; total does not sum to 100%

Rider Perceptions

Several questions within the survey targeted rider opinions and perceptions regarding service options, accessibility, and convenience, among others. First, respondents were asked to indicate their extent of agreement or disagreement with several statements. The statements addressed bus fare, operation hours, overcrowding, parking availability and frequency of stops. Results are provided in the tables that follow. Based on the results, it seems that riders are generally satisfied with the subjects queried. For each service type, at least 80% of riders agreed that the Long Haul bus hours of operation are convenient and 81-96% agreed that fare price is reasonable. The Cascades riders were the most satisfied with fares. Also, 73 to 87% disagreed that finding parking at the park-and-ride lots is difficult. The majority of riders across services disagreed that the number of stops the bus makes in DC should be reduced, indicating satisfaction with the current service configuration. The only statement that commuters reacted negatively to, was overcrowding of the buses; with few exceptions, Long Haul service respondents

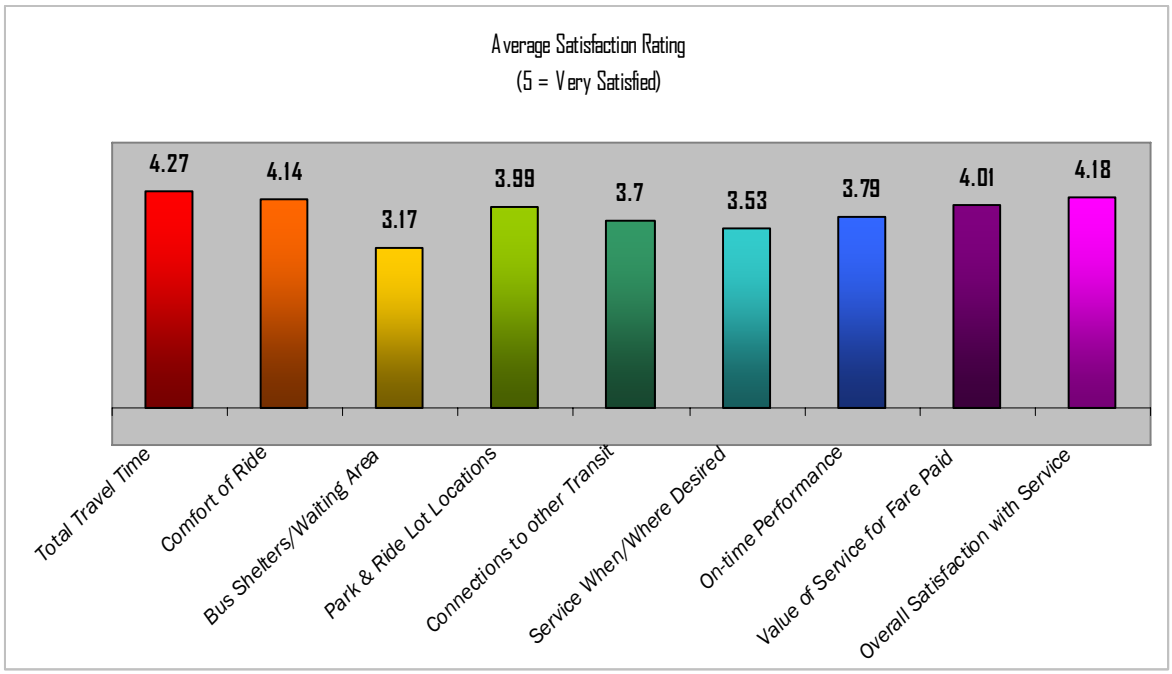
strongly agreed (55%) or agreed (39%) with the statement that buses are frequently overcrowded, while 73% of Cascades respondents agreed and only 20% of Reverse Commute respondents agreed with this statement.

Long Haul Service Respondents	Strongly Agree	Agree	Disagree	Strongly Disagree
Commuter Bus Operation Hours are Convenient	27%	60%	10%	3%
Fare Price is Reasonable	21%	60%	15%	4%
Commuter Buses are Frequently Crowded	55%	39%	6%	0%
It's Difficult to Find Parking at the Park & Ride Lot(s)	7%	13%	56%	24%
There should be fewer stops in DC (only at major locations)	5%	19%	55%	21%

Reverse Commute Respondents	Strongly Agree	Agree	Disagree	Strongly Disagree
Commuter Bus Operation Hours are Convenient	27%	53%	20%	0%
Fare Price is Reasonable	30%	57%	13%	0%
Commuter Buses are Frequently Crowded	3%	17%	67%	13%
It's Difficult to Find Parking at the Park & Ride Lot(s)	3%	23%	50%	23%
There should be fewer stops in DC (only at major locations)	3%	30%	47%	20%

Cascades Service Respondents	Strongly Agree	Agree	Disagree	Strongly Disagree
Commuter Bus Operation Hours are Convenient	19%	62%	19%	0%
Fare Price is Reasonable	46%	50%	4%	0%
Commuter Buses are Frequently Crowded	13%	60%	21%	6%
It's Difficult to Find Parking at the Park & Ride Lot(s)	4%	10%	62%	25%
There should be fewer stops in DC (only at major locations)	6%	37%	52%	6%

Next, respondents' satisfaction was gauged on a scale of 1 through 5; with 1 equaling 'very dissatisfied' and 5 'very satisfied'. The chart below illustrates the average rating for each question asked in the order of: total travel time, comfort of ride, bus shelter/waiting area, park & ride lot locations, connections to other transit service, service when and where desired, on-time performance, value of service for fare paid, and overall satisfaction. Results were positive across the board with ratings ranging from 3.17 to 4.27. The lowest average satisfaction rating was 3.17 in regard to bus shelters and waiting areas. Total travel time had the strongest satisfaction rating of 4.27. Overall satisfaction was the second highest rating of 4.18. The results for these questions were similar across the different services; detailed results are provided in the table that follows. There are some subtle differences in theses results. For example, compared to other riders, Reverse Commute riders have a lower satisfaction rating for Park-and-Ride lot locations (which are not in Loudoun County), but a higher satisfaction for bus shelters and waiting areas. Also, similar to the previous set of questions, Cascades riders are the most satisfied with the value of service for the fare paid. Also, Cascades riders are the most satisfied with the connections to other transit.



Rider Satisfaction Ratings	Long Haul Service	Reverse Commute	Cascades
Total Travel Time	4.26	4.47	4.37
Comfort of Ride	4.08	4.70	4.65
Bus Shelter/Waiting Area	3.15	3.80	3.06
Park & Ride Lot Locations	4.02	3.30	4.17
Connections to Other Transit	3.65	3.80	4.33
Service When/Where Desired	3.55	3.47	3.42
On-time Performance	3.78	3.90	3.77
Value of Service for Fare Paid	3.98	4.07	4.42
Overall Satisfaction with Service	4.17	4.23	4.33

In order to understand why commuters choose the bus over other forms of transit, respondents were asked a series of questions regarding why they ride the commuter bus and what factors are most influential in their choice to ride. Respondents were asked to choose their two most important reasons for riding the bus out of the following choices:

- The bus is faster than driving
- The high cost of gasoline
- I do not like to drive in traffic
- I can do other things during the trip (work, read, sleep, etc.)
- Parking is expensive
- My employer pays for bus fare
- To help the environment

Since respondents were able to choose more than one reason for riding the commuter bus, included below is a table depicting the percent of respondents who chose each reason by service type. Results show the two most important reasons for taking the commuter bus for every service type are: I do not like to drive in traffic and I can do other things during the trip. It is noteworthy to mention that the next tier of responses reflect the time and economic value of riding the commuter bus: the bus is faster than driving, the high cost of gasoline, and parking is expensive (though understandably the

last response was not chosen by the Reverse Commute riders). The responses across the service types are similar, except that Reverse Commute respondents were much more likely to choose the reasons that they can do other things during the trip and to help the environment than riders of other services.

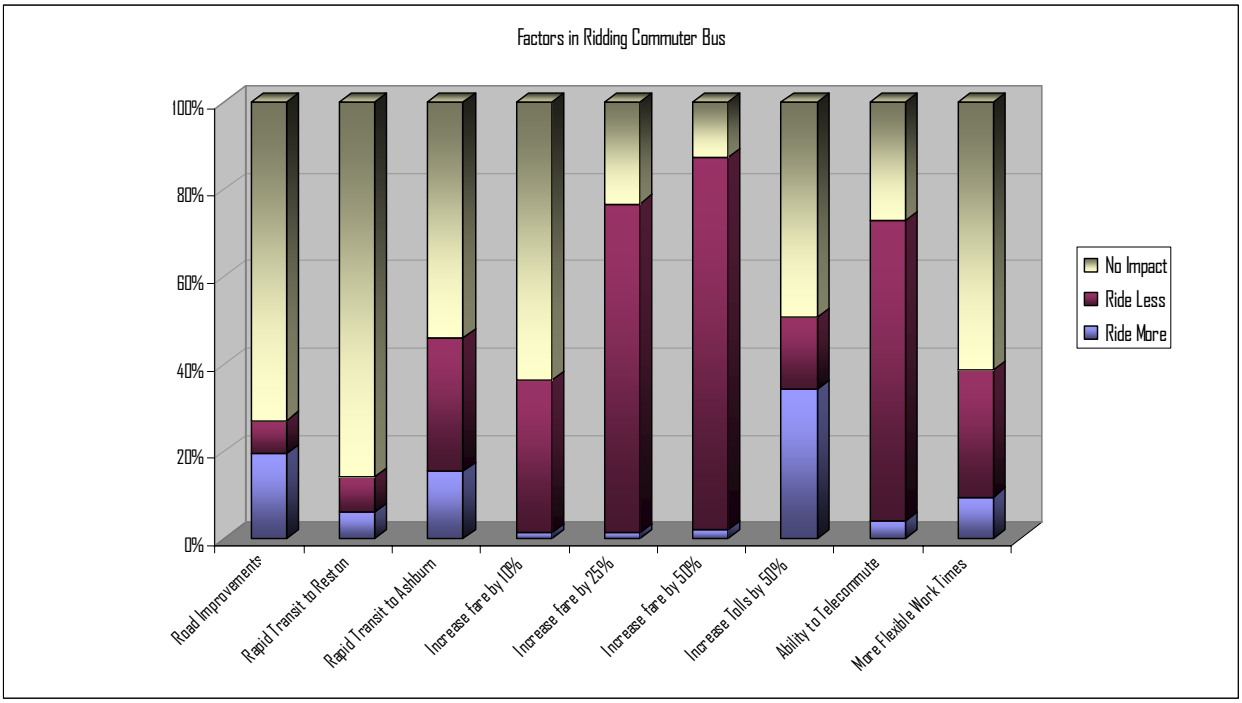
Response Percent* Reasons For Riding Commuter Bus	Long Haul Service	Reverse Commute	Cascades
I can do other things during trip	46%	60%	41%
I do not like to drive in traffic	40%	43%	38%
The bus is faster than driving	34%	23%	18%
The high cost of gasoline	24%	33%	34%
Parking is expensive	20%	0%	16%
My employer pays for bus fare	17%	3%	25%
To help the environment	14%	37%	14%

*Respondents provided up to two answers; total does not sum to 100%

Respondents were also asked to identify factors that would affect their choice to ride the commuter bus. In this case, respondents were asked to identify if the following factors would increase, decrease, or have no impact on their ridership:

- Major road improvements to reduce congestion
- Introduction of a rapid transit service to Reston
- Introduction of rapid transit to service to Ashburn
- Increase Dulles Toll Road & Dulles Greenway tolls by 50%
- Ability to telecommute
- My employer offered more flexible work times
- Increase fare by 10%, 25%, and 50%

A few patterns emerged from the results of this question. In most cases, the majority of respondents seem to feel that changes in these factors would have no impact on their ridership. However, when asked how a 25% and 50% fare increase would affect their habits, respondents indicated in large numbers that they would ride the commuter bus less. In addition, if tolls were increased on the Dulles Toll Road and the Dulles Greenway, respondents indicated that they would ride more. Also worth noting, a majority of respondents mentioned that they would ride less if their telecommuting ability was increased. Included below is an illustration of these results. The chart shows the percentage of respondents in each category, the table depicts the actual number of respondents.



Possible Factors Affecting Ridership	Ride More	Ride Less	No Impact
Road Improvements	136	53	510
Rapid Transit to Reston	42	56	601
Rapid Transit to Ashburn	108	214	377
Increase fare by 10%	9	245	445
Increase fare by 25%	9	527	163
Increase fare by 50%	15	595	89
Increase Tolls by 50%	240	114	345
Ability to Telecommute	28	480	191
More Flexible Work Times	67	202	430

The results of the questions on impacts to likelihood of riding were also analyzed by service type, but detailed results are not provided as the results for most questions are virtually the same. The only striking differences are that, consistent with other parts of the survey, Cascades riders are less likely to reduce their ridership in response to a fare

increase or a change in tolls. Also, a larger share of Reverse Commute respondents would ride more if rapid transit to Ashburn were provided. Finally, higher shares of the Cascades riders indicated both that they would ride more and that they would ride less if rapid transit to Reston were provided, while a higher share of Cascades riders indicated they would not change ridership if rapid transit to Ashburn were provided.

Finally, survey respondents were asked to identify needed service improvements. Respondents were asked to choose 3 service improvements of the following categories:

- More buses
- New routes
- Bigger park and ride lots
- Better connections to metrorail
- Shelters/waiting areas
- More mid-day service
- Improved customer communications
- Later afternoon/evening buses

There is some overlap with the previous satisfaction ratings in that a large number of respondents identified more buses and improvements to waiting areas. A large portion of respondents also noted that more mid-day, afternoon and evening service would be beneficial. Note that, since the time of the survey, two additional buses and daily mid-afternoon runs on Monday through Thursday (in addition to the existing one on Friday) have been added to the Long Haul service.

This part of the survey highlights some of the different needs between service types. Long Haul service riders were more likely than other riders to choose more buses and bigger park-and-ride lots as needed improvements, and less likely to choose new routes. The Reverse Commute riders stood out in their higher level of interest in better connections to Metrorail, new routes, and improved customer communication.

Response Percent* Improvements to Commuter Bus Service	Long Haul Service	Reverse Commute	Cascades
More buses	82%	47%	70%
New routes	24%	53%	43%
Bigger park & ride lots	18%	3%	4%
Better Connections to Metrorail	13%	40%	14%
Shelters/waiting areas	38%	17%	43%
More mid-day service	58%	60%	46%
Improved customer communication	15%	30%	23%
Later afternoon/evening buses	46%	50%	36%

*Respondents provided up to three answers; total does not sum to 100%

Additional Data

The chart below shows which bus route each of the survey respondents uses as their primary and secondary runs. The survey results are summarized from a survey administered on February 4 to 15, 2008, via an on-line survey instrument using Survey Monkey™. A total of 718 surveys were submitted, representing approximately 43% of the daily riders (1,650) in that timeframe.

Bus Run	Primary Run:	Secondary Run (if applicable):	Bus Run	Primary Run:	Secondary Run (if applicable):
DC10	35	13	DC23E	13	19
DC25W	35	11	DS26W	11	21
DC6W	33	9	C1A	10	6
DC2E	32	1	C3A	10	8
DC5E	29	23	C4A	10	9
DC15	28	12	DS4W	10	3
DC9	27	9	Other	7	3
DC12E	27	12	DS27E	6	8
DC14W	26	23	R6A	6	2
DC13E	24	7	R2A	5	2
DC17	24	19	R9A	5	2
DC24W	24	16	C5A	4	6
DC18	23	13	C7A	4	2
DS11W	23	9	M1	4	12
DS3E	22	5	R1A	4	1
DC1W	21	4	R8A	4	3
DC16	21	16	C6A	3	3
DS8E	21	8	R3A	3	5
DC7	19	15	R5A	3	1
DC22	19	16	M2	1	2
DC28	17	9	T1A	1	1
DC20	16	19	R4A	0	1
DS21	16	18	R7A	0	0
C2A	15	4	T2A	0	1
DC19	15	14			

APPENDIX B
COMMUTER / EXPRESS BUS SERVICE PLANS
BY FISCAL YEAR

Existing (FY 2011) Commuter and Express Services

Route Name	Bus Trips				Travel	rage Week	Avg. Wkdy.	
	AM Pk	Midday	PM Pk	Daily Trips	Time (Min.)	In-Serv. Hours	Rev. Hrs.	Bus Req't.
Purcellville-DC	11	0	20	31	120	62.0	68.2	n/a
Lessburg-DC	9	1	1	11	90	16.5	18.2	n/a
Dulles South-DC	8	0	9	17	90	25.5	28.1	n/a
Dulles North-DC	8	0	7	15	80	20.0	22.0	n/a
Ashburn North-DC	8	0	5	13	60	13.0	14.3	n/a
Total DC Trips	**44**	**1**	**42**	**87**	**n/a**	**137.0**	**150.7**	**38**
Tysons Express - Leesburg to Tysons	8	0	8	16	70	18.7	20.5	5
Tysons Shuttle	4	0	4	8	30	4.0	4.4	1
Potomac Falls-West Falls Church	8	0	8	16	50	13.3	14.7	3
Reverse Commute Trips	9	0	7	16	45	12.0	13.2	n/a
Leesburg/Dulles N.-West Falls Church	3	0	3	6	50	5.0	5.5	n/a
Total Non-DC Trips	**20**	**0**	**18**	**38**	**n/a**	**30.3**	**33.4**	**9**
LINK	**16**	**0**	**14**	**30**	**30**	**15.0**	**15.0**	**2**
Monday-Thursday Service	**80**	**1**	**74**	**155**		**182**	**199**	**49**
Friday Service						**187**	**204**	**49**
Annual Service						**46,200**	**50,400**	**n/a**

Notes:

1. *In-service hours = hours in which buses are in scheduled service.*
2. *Revenue-hours = hours in-service + non-service return trips. LC Transit contract based on revenue-hours.*
4. *Annual statistics based on 200 Mon-Thurdays and 52 Friday's.*

FY 2012 Commuter and Express Services

Route Name	Bus Trips				Travel	rage Week	Avg. Wkdy.	
	AM Pk	Midday	PM Pk	Daily Trips	Time (Min.)	In-Serv. Hours	Rev. Hrs.	Bus Req't.
Purcellville/Harmony-DC	11	0	20	31	120	62.0	68.2	n/a
Lessburg-DC	9	1	1	11	90	16.5	18.2	n/a
Dulles South-DC	8	0	9	17	90	25.5	28.1	n/a
Dulles North-DC	8	0	7	15	80	20.0	22.0	n/a
Ashburn North-DC	8	0	5	13	60	13.0	14.3	n/a
FY 12 Commuter Service Expansion (3 buses)	**4**	**0**	**5**	**9**	**75**	**11.3**	**12.4**	**n/a**
Total DC Trips	**48**	**1**	**47**	**96**	**n/a**	**148.3**	**163.1**	**41**
Tysons Express - Leesburg to Tysons	8	0	8	16	70	18.7	20.5	5
Tysons Shuttle	4	0	4	8	30	4.0	4.4	1
Potomac Falls-West Falls Church	8	0	8	16	50	13.3	14.7	3
Reverse Commute Trips	9	0	7	16	45	12.0	13.2	n/a
Leesburg/Dulles N.-West Falls Church	3	0	3	6	50	5.0	5.5	n/a
Total Non-DC Trips	**20**	**0**	**18**	**38**	**n/a**	**30.3**	**33.4**	**9**
LINK	**16**	**0**	**14**	**30**	**30**	**15.0**	**15.0**	**2**
Monday-Thursday Service	**84**	**1**	**79**	**164**		**194**	**211**	**52**
Friday Service						**204**	**227**	**52**
Annual Service						**49,300**	**54,100**	**n/a**

Notes:

1. *In-service hours = hours in which buses are in scheduled service.*
2. *Revenue-hours = hours in-service + non-service return trips. LC Transit contract based on revenue-hours.*
3. *Total hours = all hours bus is operating (from yard pull-out to yard pull-in).*
4. *Annual statistics based on 200 Mon-Thurdays and 52 Friday's.*

FY 2013 Commuter and Express Services

Route Name	Bus Trips				Travel	rage Week	Avg. Wkdy.	
	AM Pk	Midday	PM Pk	Daily Trips	Time (Min.)	In-Serv. Hours	Rev. Hrs.	Bus Req't.
Purcellville/Harmony-DC	11	0	20	31	120	62.0	68.2	n/a
Lessburg-DC	9	1	1	11	90	16.5	18.2	n/a
Dulles South-DC	8	0	9	17	90	25.5	28.1	n/a
Dulles North-DC	8	0	7	15	80	20.0	22.0	n/a
Ashburn North-DC	8	0	5	13	60	13.0	14.3	n/a
FY 12 Commuter Service Expansion (3 buses)	4	0	5	9	75	11.3	12.4	n/a
FY 13 Commuter Service Expansion (2 buses)	**3**	**0**	**3**	**6**	**75**	**7.5**	**8.3**	**n/a**
Total DC Trips	**51**	**1**	**50**	**102**	**n/a**	**137.0**	**171.3**	**43**
Tysons Express - Leesburg to Tysons	8	0	8	16	70	18.7	20.5	5
Tysons Shuttle	4	0	4	8	30	4.0	4.4	1
Potomac Falls-West Falls Church	8	0	8	16	50	13.3	14.7	3
Reverse Commute Trips	9	0	7	16	45	12.0	13.2	n/a
Leesburg/Dulles N.-West Falls Church	3	0	3	6	50	5.0	5.5	n/a
Total Non-DC Trips	**20**	**0**	**18**	**38**	**n/a**	**30.3**	**33.4**	**9**
LINK	**16**	**0**	**14**	**30**	**30**	**15.0**	**15.0**	**2**
Monday-Thursday Service	**87**	**1**	**82**	**170**		**182**	**220**	**54**
Friday Service						**192**	**236**	**54**
Annual Service						**46,500**	**56,200**	**n/a**

Notes:

1. *In-service hours = hours in which buses are in scheduled service.*
2. *Revenue-hours = hours in-service + non-service return trips. LC Transit contract based on revenue-hours.*
3. *Total hours = all hours bus is operating (from yard pull-out to yard pull-in).*
4. *Annual statistics based on 200 Mon-Thurdays and 52 Friday's.*

FY 2014 Commuter and Express Services

Route Name	Bus Trips				Travel	rage Week	Avg. Wkdy.	
	AM Pk	Midday	PM Pk	Daily Trips	Time (Min.)	In-Serv. Hours	Rev. Hrs.	Bus Req't.
Purcellville/Harmony-DC	11	0	20	31	120	62.0	68.2	n/a
Lessburg-DC	9	1	1	11	90	16.5	18.2	n/a
Dulles South-DC	8	0	9	17	90	25.5	28.1	n/a
Dulles North-DC	8	0	7	15	80	20.0	22.0	n/a
Ashburn North-DC	8	0	5	13	60	13.0	14.3	n/a
FY 12 Commuter Service Expansion (3 buses)	4	0	5	9	75	11.3	12.4	n/a
FY 13 Commuter Service Expansion (2 buses)	3	0	3	6	75	7.5	8.3	n/a
FY 14 Commuter Service Expansion (2 buses)	**3**	**0**	**3**	**6**	**75**	**7.5**	**8.3**	**n/a**
Total DC Trips	**54**	**1**	**53**	**108**	**n/a**	**163.3**	**179.6**	**44**
Tysons Express - Leesburg to Tysons	8	0	8	16	70	18.7	20.5	5
Potomac Falls-Wiehle Avenue (20 min. freq)	8	0	9	17	**40**	11.3	12.5	3
Leesburg/Dulles N.-Wiehle Ave.Trips	**5**	**2**	**5**	12	**40**	8.0	8.8	**2**
Total Non-DC Trips	**21**	**2**	**22**	**45**	**n/a**	**38.0**	**41.8**	**10**
LINK	**16**	**0**	**14**	**30**	**30**	**15.0**	**15.0**	**2**
Monday-Thursday Service	**91**	**3**	**89**	**183**		**216**	**236**	**56**
Friday Service						**226**	**252**	**56**
Annual Service						**55,000**	**60,400**	**n/a**

Notes:

1. *In-service hours = hours in which buses are in scheduled service.*
2. *Revenue-hours = hours in-service + non-service return trips. LC Transit contract based on revenue-hours.*
3. *Total hours = all hours bus is operating (from yard pull-out to yard pull-in).*
4. *Annual statistics based on 200 Mon-Thurdays and 52 Friday's.*

FY 2015 Commuter and Express Services

Route Name	Bus Trips				Travel	rage Week	Avg. Wkdy.	
	AM Pk	Midday	PM Pk	Daily Trips	Time (Min.)	In-Serv. Hours	Rev. Hrs.	Bus Req't.
Purcellville/Harmony-DC	11	0	20	31	120	62.0	68.2	n/a
Lessburg-DC	9	1	1	11	90	16.5	18.2	n/a
Dulles South-DC	8	0	9	17	90	25.5	28.1	n/a
Dulles North-DC	8	0	7	15	80	20.0	22.0	n/a
Ashburn North-DC	8	0	5	13	60	13.0	14.3	n/a
FY 12 Commuter Service Expansion (3 buses)	4	0	5	9	75	11.3	12.4	n/a
FY 13 Commuter Service Expansion (2 buses)	3	0	3	6	75	7.5	8.3	n/a
FY 14 Commuter Service Expansion (2 buses)	3	0	3	6	75	7.5	8.3	n/a
FY 15 Commuter Service Expansion (2 buses)	**3**	**0**	**3**	**6**	**75**	**7.5**	**8.3**	**n/a**
Total DC Trips	**57**	**1**	**56**	**114**	**n/a**	**170.8**	**187.8**	**45**
Tysons Express - Leesburg to Tysons	8	0	8	16	70	18.7	20.5	5
Potomac Falls-Wiehle Avenue (20 min. freq)	8	0	9	17	40	11.3	12.5	3
Leesburg/Dulles N.-Wiehle Ave.	5	2	5	12	40	8.0	8.8	2
Total Non-DC Trips	**21**	**2**	**22**	**45**	**n/a**	**38.0**	**41.8**	**10**
LINK	**16**	**0**	**14**	**30**	**30**	**15.0**	**15.0**	**2**
Monday-Thursday Service	**94**	**3**	**92**	**189**		**224**	**245**	**57**
Friday Service						**234**	**261**	**57**
Annual Service						**56,900**	**62,500**	**n/a**

Notes:

1. *In-service hours = hours in which buses are in scheduled service.*
2. *Revenue-hours = hours in-service + non-service return trips. LC Transit contract based on revenue-hours.*
3. *Total hours = all hours bus is operating (from yard pull-out to yard pull-in).*
4. *Annual statistics based on 200 Mon-Thurdays and 52 Friday's.*

FY 2016 Commuter and Express Services

Route Name	Bus Trips				Travel	rage Week	Avg. Wkdy.	
	AM Pk	Midday	PM Pk	Daily Trips	Time (Min.)	In-Serv. Hours	Rev. Hrs.	Bus Req't.
Purcellville/Harmony-DC	11	0	20	31	120	62.0	68.2	n/a
Lessburg-DC	9	1	1	11	90	16.5	18.2	n/a
Dulles South-DC	8	0	9	17	90	25.5	28.1	n/a
Dulles North-DC	8	0	7	15	80	20.0	22.0	n/a
Ashburn North-DC	8	0	5	13	60	13.0	14.3	n/a
FY 12 Commuter Service Expansion (3 buses)	4	0	5	9	75	11.3	12.4	n/a
FY 13 Commuter Service Expansion (2 buses)	3	0	3	6	75	7.5	8.3	n/a
FY 14 Commuter Service Expansion (2 buses)	3	0	3	6	75	7.5	8.3	n/a
FY 15 Commuter Service Expansion (2 buses)	3	0	3	6	75	7.5	8.3	n/a
Total DC Trips	**57**	**1**	**56**	**114**	**n/a**	**170.8**	**187.8**	**45**
Tysons Express - Leesburg to Tysons	8	0	8	16	70	18.7	20.5	5
Potomac Falls-Wiehle Avenue (20 min. freq)	8	0	9	17	40	11.3	12.5	3
Leesburg/Dulles N.-Wiehle Ave.	5	2	5	12	40	8.0	8.8	2
Total Non-DC Trips	**21**	**2**	**22**	**45**	**n/a**	**38.0**	**41.8**	**10**
LINK	**16**	**0**	**14**	**30**	**30**	**15.0**	**15.0**	**2**
Monday-Thursday Service	**94**	**3**	**92**	**189**		**224**	**245**	**57**
Friday Service						**234**	**261**	**57**
Annual Service						**56,900**	**62,500**	**n/a**

Notes:

1. *In-service hours = hours in which buses are in scheduled service.*
2. *Revenue-hours = hours in-service + non-service return trips. LC Transit contract based on revenue-hours.*
3. *Total hours = all hours bus is operating (from yard pull-out to yard pull-in).*
4. *Annual statistics based on 200 Mon-Thurdays and 52 Friday's.*

FY 2017 Commuter and Express Services

Route Name	Bus Trips				Travel	rage Week	Avg. Wkdy.	
	AM Pk	Midday	PM Pk	Daily Trips	Time (Min.)	In-Serv. Hours	Rev. Hrs.	Bus Req't.
Purcellville/Harmony-DC	9	0	16	25	120	50.0	54.0	n/a
Leesburg-DC	7	0	1	8	90	12.0	13.0	n/a
Dulles South-DC	6	0	7	13	90	19.5	21.1	n/a
Dulles North-DC	6	0	5	11	80	14.7	15.8	n/a
Ashburn North-DC	6	0	4	10	60	10.0	10.8	n/a
FY 2012-FY 2016 Service Expansion Projects	11	0	12	23	60	23.0	24.8	n/a
Total DC Trips	**45**	**0**	**45**	**90**	**n/a**	**129.2**	**139.5**	**36**
Potomac Falls-Herndon-Monroe (15 min. freq)	**11**	0	**12**	23	30	11.5	12.7	**4**
Leesburg-Route 772 (20-min. freq)	**9**	**24**	**12**	45	**55**	41.3	45.4	**3**
Total Non-DC Trips	**20**	**24**	**24**	**68**	**n/a**	**52.8**	**58.0**	**7**
LINK (Eliminated)	**0**	**0**	**0**	**0**	**0**	**0.0**	**0.0**	**0**
Monday-Thursday Service	**65**	**24**	**69**	**158**		**182**	**198**	**43**
Friday Service						**188**	**207**	**43**
Annual Service						**46,200**	**50,200**	**n/a**

Notes:

1. *In-service hours = hours in which buses are in scheduled service.*
2. *Revenue-hours = hours in-service + non-service return trips. LC Transit contract based on revenue-hours.*
3. *Total hours = all hours bus is operating (from yard pull-out to yard pull-in).*
4. *Annual statistics based on 200 Mon-Thurdays and 52 Friday's.*
6. *Leesburg-Route 772 route assumes 30-minute all-day service frequencies.*

APPENDIX C
LOCAL BUS SERVICE PLANS
BY FISCAL YEAR

LOCAL ROUTE
EXISTING (FY 2011) SERVICE

Weekdays

Route Name	Span of Service	Total Hours	Service Frequency				Daily Trips	Peak Period Cycle Time				One-Way Distance (Miles)	Average Weekday			Bus Requirements			
			AM Pk	Midday	PM Pk	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	AM Pk	Midday	PM Pk	Evening
Ashburn Village Route (No change?)	7:25 am-7:15 pm	12.0	60	60	60	n/a	12	50	10	17%	60	13.3	10.0	12.0	159.6	1.00	1.00	1.00	0.00
Ashburn Farm/Broadlands Route	7:10 am-7:10 pm	12.0	60	60	60	n/a	12	60	0	0%	60	15.0	12.0	12.0	180.0	1.00	1.00	1.00	0.00
Sterling Circulator	7:00 am-7:00 pm	12.0	30	30	30	n/a	48	30	0	0%	60	7.9	24.0	24.0	379.2	2.00	2.00	2.00	0.00
Dulles 2 Dulles Air & Space Museum	7:00 am-6:30 pm	4.0	60	n/a	60	n/a	8	28	5	23%	60	9.0	3.7	4.0	72.0	1.00	0.00	1.00	0.00
Dulles 2 Dulles Air & Space Museum	6:20 am-8:45 pm	7.0	n/a	45	n/a	n/a	19	28	5	17%	60	15.0	13.1	14.0	285.0	0.00	2.00	0.00	0.00
7 to 7 on 7 Route	7:00 am-7:30 pm	12.0	30	30	30	n/a	48	58	4	3%	120	21.5	46.4	48.0	1032.0	4.00	4.00	4.00	0.00
Leesburg Battlefield/Ida Lee/Rust Library	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	8.0	12.0	12.0	128.0	1.00	1.00	1.00	0.00
Leesburg Sycolin Road Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	10.3	12.0	12.0	164.8	1.00	1.00	1.00	0.00
Leesburg Trolley Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	7.7	12.0	12.0	123.2	1.00	1.00	1.00	0.00
Leesburg Safe-T-Ride	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	6.5	12.0	12.0	104.0	1.00	1.00	1.00	0.00
Purcellville Connector Route	7:00 am-7:00 pm	12.0	60	60	60	n/a	24	30	0	0%	60	14.0	12.0	12.0	336.0	1.00	1.00	1.00	0.00
West Falls Church Express	6:15 am-7:40 pm	13.0	30	90	30	n/a	17	90	0	0%	90	27.0	25.0	25.0	459.0	3.00	1.00	3.00	0.00
							252						194.1	199.0	3,422.8	17.00	16.00	17.00	0.00

Saturdays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Dulles 2 Dulles Air & Space Museum	11 am-6:00 pm	7	n/a	60	n/a	14	60	0	0%	120	13.0	14.0	14.0	182.0	2.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						26						23.0	23.0	260.0	3.00	0.00

Sundays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Dulles 2 Dulles Air & Space Museum	8:00 am-8:36 pm	7	n/a	60	n/a	14	60	0	0%	120	13.0	14.0	14.0	182.0	2.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						26						23.0	23.0	260.0	3.00	0.00

LOCAL ROUTE
FY 2012 SERVICE

Weekdays

Route Name	Span of Service	Total Hours	Service Frequency				Daily Trips	Peak Period Cycle Time				One-Way Distance (Miles)	AM Peak Period		Average Weekday			Bus Requirements			
			AM Pk	Midday	PM Pk	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	In-Serv. Hours	Rev. Hrs.	Rev. Miles	AM Pk	Midday	PM Pk	Evening
Ashburn Village Route (No change?)	7:25 am-7:15 pm	12.0	60	60	60	n/a	12	50	10	17%	60	13.3	1.7	2.0	10.0	12.0	159.6	1.00	1.00	1.00	0.00
Ashburn Farm/Broadlands Route	7:10 am-7:10 pm	12.0	60	60	60	n/a	12	60	0	0%	60	15.0	2.0	2.0	12.0	12.0	180.0	1.00	1.00	1.00	0.00
Sterling Circulator	7:00 am-7:00 pm	12.0	30	30	30	n/a	48	30	0	0%	60	7.9	4.0	4.0	24.0	24.0	379.2	2.00	2.00	2.00	0.00
Dulles 2 Dulles Air & Space Museum	7:00 am-6:30 pm	4.0	60	n/a	60	n/a	8	28	5	23%	60	9.0	2.8	3.0	3.7	4.0	72.0	1.00	0.00	1.00	0.00
Dulles 2 Dulles Air & Space Museum	6:20 am-8:45 pm	7.0	n/a	45	n/a	n/a	19	28	5	17%	60	15.0	0.0	0.0	13.1	14.0	285.0	0.00	2.00	0.00	0.00
7 to 7 on 7 Route	7:00 am-7:30 pm	12.0	30	30	30	n/a	48	58	4	3%	120	21.5	11.6	12.0	46.4	48.0	1032.0	4.00	4.00	4.00	0.00
Leesburg Battlefield/Ida Lee/Rust Library	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	8.0	2.0	2.0	12.0	12.0	128.0	1.00	1.00	1.00	0.00
Leesburg Sycolin Road Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	10.3	2.0	2.0	12.0	12.0	164.8	1.00	1.00	1.00	0.00
Leesburg Trolley Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	7.7	2.0	2.0	12.0	12.0	123.2	1.00	1.00	1.00	0.00
Leesburg Safe-T-Ride	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	6.5	2.0	2.0	12.0	12.0	104.0	1.00	1.00	1.00	0.00
Purcellville Connector Route	7:00 am-7:00 pm	12.0	60	60	60	n/a	24	30	0	0%	60	14.0	2.0	2.0	12.0	12.0	336.0	1.00	1.00	1.00	0.00
West Falls Church Express	6:15 am-7:40 pm	13.0	30	90	30	n/a	17	90	0	0%	90	27.0	9.0	9.0	25.0	25.0	459.0	3.00	1.00	3.00	0.00
Sterling to Fairfax (New)	**6:00 am-7:00 pm**	**12.0**	**60**	**60**	**60**	**n/a**	**24**	**50**	**20**	**17%**	**120**	**12.0**	**3.3**	**4.0**	**20.0**	**24.0**	**288.0**	**2.00**	**2.00**	**2.00**	**0.00**
							276						44.4	46.0	214.1	223.0	3,710.8	19.00	18.00	19.00	0.00

Saturdays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Dulles 2 Dulles Air & Space Museum	11 am-6:00 pm	7	n/a	60	n/a	14	60	0	0%	120	13.0	14.0	14.0	182.0	2.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						26						23.0	23.0	260.0	3.00	0.00

Sundays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Dulles 2 Dulles Air & Space Museum	8:00 am-8:36 pm	7	n/a	60	n/a	14	60	0	0%	120	13.0	14.0	14.0	182.0	2.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						26						23.0	23.0	260.0	3.00	0.00

LOCAL ROUTE
FY 2013 SERVICE

Weekdays

Route Name	Span of Service	Total Hours	Service Frequency				Daily Trips	Peak Period Cycle Time				One-Way Distance (Miles)	Average Weekday			Bus Requirements			
			AM Pk	Midday	PM Pk	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	AM Pk	Midday	PM Pk	Evening
Ashburn Village Route (No change?)	7:25 am-7:15 pm	12.0	60	60	60	n/a	12	50	10	17%	60	13.3	10.0	12.0	159.6	1.00	1.00	1.00	0.00
Ashburn Farm/Broadlands Route	7:10 am-7:10 pm	12.0	60	60	60	n/a	12	60	0	0%	60	15.0	12.0	12.0	180.0	1.00	1.00	1.00	0.00
Sterling Circulator	**7:00 am-10:00 pm**	15.0	30	30	30	**60**	54	30	0	0%	60	7.9	27.0	27.0	426.6	2.00	2.00	2.00	1.00
7 to 7 on 7 Route	**7:00 am-10:00 pm**	15.0	30	30	30	**60**	54	58	4	3%	120	21.5	52.2	54.0	1161.0	4.00	4.00	4.00	2.00
Leesburg Battlefield/Ida Lee/Rust Library	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	8.0	12.0	12.0	128.0	1.00	1.00	1.00	0.00
Leesburg Sycolin Road Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	10.3	12.0	12.0	164.8	1.00	1.00	1.00	0.00
Leesburg Trolley Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	7.7	12.0	12.0	123.2	1.00	1.00	1.00	0.00
Leesburg Safe-T-Ride	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	6.5	12.0	12.0	104.0	1.00	1.00	1.00	0.00
Purcellville Connector Route	7:00 am-7:00 pm	12.0	60	60	60	n/a	24	30	0	0%	60	14.0	12.0	12.0	336.0	1.00	1.00	1.00	0.00
Atlantic Circulator Airport to Town Ctr (New)	**6:00 am-10:00 pm**	**16.0**	**30**	**30**	**30**	**60**	**58**	**27**	**6**	**10%**	**60**	**9.5**	**26.1**	**29.0**	**551.0**	**2.00**	**2.00**	**2.00**	**1.00**
West Falls Church Express	6:15 am-7:40 pm	13.0	30	90	30	n/a	17	90	0	0%	90	27.0	25.0	25.0	459.0	3.00	1.00	3.00	0.00
Sterling to Fairfax (New)	**6:00 am-7:00 pm**	**12.0**	**60**	**60**	**60**	**n/a**	**24**	**50**	**20**	**17%**	**120**	**12.0**	**20.0**	**24.0**	**288.0**	**2.00**	**2.00**	**2.00**	**0.00**
							319						**232.3**	**243.0**	**4,081.2**	**20.00**	**18.00**	**20.00**	**4.00**

Saturdays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator Airport to Town Ctr (New)	**7:00 am-6:00 pm**	**11**	**n/a**	**60**	**n/a**	**22**	**27**	**6**	**10%**	**60**	**9.5**	**9.9**	**11.0**	**209.0**	**1.00**	**0.00**
7 to 7 on 7 Route	**7:00 am-6:00 pm**	**11**	**n/a**	**60**	**n/a**	**22**	**58**	**4**	**3%**	**120**	**21.5**	**21.3**	**22.0**	**473.0**	**2.00**	**0.00**
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						56						**40.2**	**42.0**	**760.0**	**4.00**	**0.00**

Sundays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator Airport to Town Ctr (New)	**9:00 am-6:00 pm**	**9**	**n/a**	**60**	**n/a**	**18**	**27**	**6**	**10%**	**60**	**9.5**	**8.1**	**9.0**	**171.0**	**1.00**	**0.00**
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						30						**17.1**	**18.0**	**249.0**	**2.00**	**0.00**

LOCAL ROUTE
FY 2014 SERVICE

Weekdays

Route Name	Span of Service	Total Hours	Service Frequency				Daily Trips	Peak Period Cycle Time				One-Way Distance (Miles)	Average Weekday			Bus Requirements			
			AM Pk	Midday	PM Pk	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	AM Pk	Midday	PM Pk	Evening
Ashburn Village Route (No change?)	7:25 am-7:15 pm	12.0	60	60	60	n/a	12	50	10	17%	60	13.3	10.0	12.0	159.6	1.00	1.00	1.00	0.00
Ashburn Farm/Broadlands Route	7:10 am-7:10 pm	12.0	60	60	60	n/a	12	60	0	0%	60	15.0	12.0	12.0	180.0	1.00	1.00	1.00	0.00
Sterling Circulator	7:00 am-10:00 pm	15.0	30	30	30	60	54	30	0	0%	60	7.9	27.0	27.0	426.6	2.00	2.00	2.00	1.00
7 to 7 on 7 Route	7:00 am-10:00 pm	15.0	30	30	30	60	54	58	4	3%	120	21.5	52.2	54.0	1161.0	4.00	4.00	4.00	2.00
Leesburg Battlefield/Ida Lee/Rust Library	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	8.0	12.0	12.0	128.0	1.00	1.00	1.00	0.00
Leesburg Sycolin Road Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	10.3	12.0	12.0	164.8	1.00	1.00	1.00	0.00
Leesburg Trolley Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	7.7	12.0	12.0	123.2	1.00	1.00	1.00	0.00
Leesburg Safe-T-Ride	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	6.5	12.0	12.0	104.0	1.00	1.00	1.00	0.00
Purcellville Connector Route	7:00 am-7:00 pm	12.0	60	60	60	n/a	24	30	0	0%	60	14.0	12.0	12.0	336.0	1.00	1.00	1.00	0.00
Atlantic Circulator to Wiehle (Mod'd)	6:00 am-10:00 pm	16.0	30	60	30	60	44	**52**	**16**	13%	120	**17.0**	38.1	44.0	748.0	4.00	2.00	4.00	2.00
Pacific/Loudoun Co. Pkwy Circ. (New)	**6:00 am-7:00 pm**	**13.0**	**30**	**60**	**30**	**n/a**	**38**	**50**	**20**	**17%**	**120**	**17.0**	**31.7**	**38.0**	**646.0**	**4.00**	**2.00**	**4.00**	**0.00**
Wiehle (WFC) Express (Mod'd)	6:15 am-7:40 pm	13.0	30	90	30	n/a	17	80	10	11%	90	27.0	22.2	25.0	459.0	3.00	1.00	3.00	0.00
Sterling to Fairfax/Wiehle (Mod'd)	6:00 am-7:00 pm	12.0	**30**	60	**30**	n/a	34	55	10	8%	120	**15.0**	31.2	34.0	510.0	4.00	2.00	4.00	0.00
							353						**284.4**	**306.0**	**5,146.2**	**28.00**	**20.00**	**28.00**	**5.00**

Saturdays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Wiehle (Mod'd)	7:00 am-6:00 pm	11	n/a	60	n/a	22	**50**	**20**	17%	120	**17.0**	18.3	22.0	374.0	2.00	0.00
7 to 7 on 7 Route	7:00 am-6:00 pm	11	n/a	60	n/a	22	58	4	3%	120	21.5	21.3	22.0	473.0	2.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						56						**48.6**	**53.0**	**925.0**	**5.00**	**0.00**

Sundays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Wiehle (Mod'd)	9:00 am-6:00 pm	9	n/a	60	n/a	18	**50**	**20**	17%	120	**17.0**	15.0	18.0	306.0	2.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						30						**24.0**	**27.0**	**384.0**	**3.00**	**0.00**

LOCAL ROUTE
FY 2015 SERVICE

Weekdays

Route Name	Span of Service	Total Hours	Service Frequency				Daily Trips	Peak Period Cycle Time				One-Way Distance (Miles)	Average Weekday			Bus Requirements			
			AM Pk	Midday	PM Pk	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	AM Pk	Midday	PM Pk	Evening
Ashburn Village Route (No change?)	7:25 am-7:15 pm	12.0	60	60	60	n/a	12	50	10	17%	60	13.3	10.0	12.0	159.6	1.00	1.00	1.00	0.00
Ashburn Farm/Broadlands Route	7:10 am-7:10 pm	12.0	60	60	60	n/a	12	60	0	0%	60	15.0	12.0	12.0	180.0	1.00	1.00	1.00	0.00
Sterling Circulator	7:00 am-10:00 pm	15.0	30	30	30	60	54	30	0	0%	60	7.9	27.0	27.0	426.6	2.00	2.00	2.00	1.00
7 to 7 on 7 Route	7:00 am-10:00 pm	15.0	30	30	30	60	54	58	4	3%	120	21.5	52.2	54.0	1161.0	4.00	4.00	4.00	2.00
Leesburg Battlefield/Ida Lee/Rust Library	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	8.0	12.0	12.0	128.0	1.00	1.00	1.00	0.00
Leesburg Sycolin Road Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	10.3	12.0	12.0	164.8	1.00	1.00	1.00	0.00
Leesburg Trolley Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	7.7	12.0	12.0	123.2	1.00	1.00	1.00	0.00
Leesburg Safe-T-Ride	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	6.5	12.0	12.0	104.0	1.00	1.00	1.00	0.00
Purcellville Connector Route	7:00 am-7:00 pm	12.0	60	60	60	n/a	24	30	0	0%	60	14.0	12.0	12.0	336.0	1.00	1.00	1.00	0.00
Atlantic Circulator to Wiehle (Mod'd)	6:00 am-10:00 pm	16.0	30	60	30	60	44	52	16	13%	120	17.0	38.1	44.0	748.0	4.00	2.00	4.00	2.00
Pacific/Loudoun Co. Pkwy Circ. (New)	6:00 am-7:00 pm	13.0	30	60	30	n/a	38	50	20	17%	120	17.0	31.7	38.0	646.0	4.00	2.00	4.00	0.00
Wiehle (WFC) Express (Mod'd)	6:15 am-7:40 pm	13.0	30	90	30	n/a	17	80	10	11%	90	27.0	22.2	25.0	459.0	3.00	1.00	3.00	0.00
Sterling to Fairfax/Wiehle (Mod'd)	6:00 am-7:00 pm	12.0	30	60	30	n/a	34	55	10	8%	120	15.0	31.2	34.0	510.0	4.00	2.00	4.00	0.00
							353						284.4	306.0	5,146.2	28.00	20.00	28.00	5.00

Saturdays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Wiehle (Mod'd)	7:00 am-6:00 pm	11	n/a	60	n/a	22	50	20	17%	120	17.0	18.3	22.0	374.0	2.00	0.00
7 to 7 on 7 Route	7:00 am-6:00 pm	11	n/a	60	n/a	22	58	4	3%	120	21.5	21.3	22.0	473.0	2.00	0.00
Sterling Circulator	**7:00 am-6:00 pm**	**11**	**n/a**	**60**	**n/a**	**22**	**30**	**0**	**0%**	**60**	**7.9**	**11.0**	**11.0**	**173.8**	**1.00**	**0.00**
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						78						59.6	64.0	1,098.8	6.00	0.00

Sundays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Wiehle (Mod'd)	9:00 am-6:00 pm	9	n/a	60	n/a	18	50	20	17%	120	17.0	15.0	18.0	306.0	2.00	0.00
7 to 7 on 7 Route	**9:00 am-6:00 pm**	**9**	**n/a**	**60**	**n/a**	**18**	**58**	**4**	**3%**	**120**	**21.5**	**17.4**	**18.0**	**387.0**	**2.00**	**0.00**
Sterling Circulator	**9:00 am-6:00 pm**	**9**	**n/a**	**60**	**n/a**	**18**	**30**	**0**	**0%**	**60**	**7.9**	**9.0**	**9.0**	**142.2**	**1.00**	**0.00**
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						66						50.4	54.0	913.2	6.00	0.00

LOCAL ROUTE
FY 2016 SERVICE

Weekdays

Route Name	Span of Service	Total Hours	Service Frequency				Daily Trips	Peak Period Cycle Time				One-Way Distance (Miles)	Average Weekday			Bus Requirements			
			AM Pk	Midday	PM Pk	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	AM Pk	Midday	PM Pk	Evening
Ashburn Village Route (No change?)	7:25 am-7:15 pm	12.0	60	60	60	n/a	12	50	10	17%	60	13.3	10.0	12.0	159.6	1.00	1.00	1.00	0.00
Ashburn Farm/Broadlands Route	7:10 am-7:10 pm	12.0	60	60	60	n/a	12	60	0	0%	60	15.0	12.0	12.0	180.0	1.00	1.00	1.00	0.00
Sterling Circulator	7:00 am-10:00 pm	15.0	30	30	30	60	54	30	0	0%	60	7.9	27.0	27.0	426.6	2.00	2.00	2.00	1.00
7 to 7 on 7 Route	7:00 am-10:00 pm	15.0	30	30	30	60	54	58	4	3%	120	21.5	52.2	54.0	1161.0	4.00	4.00	4.00	2.00
Leesburg Battlefield/Ida Lee/Rust Library	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	8.0	12.0	12.0	128.0	1.00	1.00	1.00	0.00
Leesburg Sycolin Road Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	10.3	12.0	12.0	164.8	1.00	1.00	1.00	0.00
Leesburg Trolley Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	7.7	12.0	12.0	123.2	1.00	1.00	1.00	0.00
Leesburg Safe-T-Ride	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	6.5	12.0	12.0	104.0	1.00	1.00	1.00	0.00
Purcellville Connector Route	7:00 am-7:00 pm	12.0	60	60	60	n/a	24	30	0	0%	60	14.0	12.0	12.0	336.0	1.00	1.00	1.00	0.00
Atlantic Circulator to Wiehle (Mod'd)	6:00 am-10:00 pm	16.0	30	60	30	60	44	52	16	13%	120	17.0	38.1	44.0	748.0	4.00	2.00	4.00	2.00
Pacific/Loudoun Co. Pkwy Circ. (New)	6:00 am-7:00 pm	13.0	30	60	30	n/a	38	50	20	17%	120	17.0	31.7	38.0	646.0	4.00	2.00	4.00	0.00
Wiehle (WFC) Express (Mod'd)	6:15 am-7:40 pm	13.0	30	90	30	n/a	17	80	10	11%	90	27.0	22.2	25.0	459.0	3.00	1.00	3.00	0.00
Sterling to Fairfax/Wiehle (Mod'd)	6:00 am-7:00 pm	12.0	30	60	30	n/a	34	55	10	8%	120	15.0	31.2	34.0	510.0	4.00	2.00	4.00	0.00
							353						284.4	306.0	5,146.2	28.00	20.00	28.00	5.00

Saturdays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Wiehle (Mod'd)	7:00 am-6:00 pm	11	n/a	60	n/a	22	50	20	17%	120	17.0	18.3	22.0	374.0	2.00	0.00
7 to 7 on 7 Route	7:00 am-6:00 pm	11	n/a	60	n/a	22	58	4	3%	120	21.5	21.3	22.0	473.0	2.00	0.00
Sterling Circulator	**7:00 am-6:00 pm**	**11**	**n/a**	**60**	**n/a**	**22**	**30**	**0**	**0%**	**60**	**7.9**	**11.0**	**11.0**	**173.8**	**1.00**	**0.00**
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						78						59.6	64.0	1,098.8	6.00	0.00

Sundays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Wiehle (Mod'd)	9:00 am-6:00 pm	9	n/a	60	n/a	18	50	20	17%	120	17.0	15.0	18.0	306.0	2.00	0.00
7 to 7 on 7 Route	9:00 am-6:00 pm	9	n/a	60	n/a	18	58	4	3%	120	21.5	17.4	18.0	387.0	2.00	0.00
Sterling Circulator	9:00 am-6:00 pm	9	n/a	60	n/a	18	30	0	0%	60	7.9	9.0	9.0	142.2	1.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						66						50.4	54.0	913.2	6.00	0.00

LOCAL ROUTE
FY 2017 SERVICE

Weekdays

Route Name	Span of Service	Total Hours	Service Frequency				Daily Trips	Peak Period Cycle Time				One-Way Distance (Miles)	Average Weekday			Bus Requirements			
			AM Pk	Midday	PM Pk	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	AM Pk	Midday	PM Pk	Evening
Sterling Circulator	5:30 am-10:00 pm	16.5	30	30	30	60	60	30	0	0%	60	7.9	30.0	30.0	474.0	2.00	2.00	2.00	1.00
7 to 7 on 7 Route	5:30 am-10:00 pm	15.5	30	30	30	60	56	58	4	3%	120	21.5	54.1	56.0	1204.0	4.00	4.00	4.00	2.00
Leesburg Battlefield/Ida Lee/Rust Library	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	8.0	12.0	12.0	128.0	1.00	1.00	1.00	0.00
Leesburg Sycolin Road Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	10.3	12.0	12.0	164.8	1.00	1.00	1.00	0.00
Leesburg Trolley Route	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	7.7	12.0	12.0	123.2	1.00	1.00	1.00	0.00
Leesburg Safe-T-Ride	7:00 am-7:00 pm	12.0	45	45	45	n/a	16	45	0	0%	45	6.5	12.0	12.0	104.0	1.00	1.00	1.00	0.00
Purcellville Connector Route	7:00 am-7:00 pm	12.0	60	60	60	n/a	24	30	0	0%	60	14.0	12.0	12.0	336.0	1.00	1.00	1.00	0.00
Atlantic Circulator to Rte 606 (Mod'd)	5:30 am-10:00 pm	16.5	20	30	20	60	73	40	10	11%	90	9.5	48.7	54.8	693.5	4.50	3.00	4.50	1.50
Pacific/Loudoun Pkwy Circ. to Rte 606 (Mod'd)	5:30 am-10:00 pm	16.5	20	30	20	60	73	40	10	11%	90	12.0	48.7	54.8	876.0	4.50	3.00	4.50	1.50
Ashburn Park-Route 772 Station	5:30 am-8:30 pm	15.0	60	60	60	60	15	50	10	17%	60	12.3	12.5	15.0	184.5	1.00	1.00	1.00	1.00
Loudoun Hospital-Route 772 Station	5:30 am-8:30 pm	15.0	60	60	60	60	15	50	10	17%	60	12.3	12.5	15.0	184.5	1.00	1.00	1.00	1.00
Dulles Town Ctr-Ashburn Village-Route 772	5:30 am-8:30 pm	15.0	60	60	60	60	30	40	10	11%	90	9.2	20.0	22.5	276.0	1.50	1.50	1.50	1.50
Wegmans-Route 772 Station	5:30 am-8:30 pm	15.0	60	60	60	60	30	20	5	11%	45	4.5	10.0	11.3	135.0	0.75	0.75	0.75	0.75
Brambleton-Route 772 Station	5:30 am-8:30 pm	15.0	60	60	60	60	30	20	5	11%	45	4.5	10.0	11.3	135.0	0.75	0.75	0.75	0.75
Dulles South to Rte 606	5:30 am-10:00 pm	16.5	20	60	20	60	59	27	6	10%	60	9.0	26.6	29.5	531.0	3.00	1.00	3.00	1.00
Sterling to Fairfax/Wiehle	6:00 am-7:00 pm	12.0	30	60	30	n/a	34	55	10	8%	120	15.0	31.2	34.0	510.0	4.00	2.00	4.00	0.00
							563						364.2	394.0	6,059.5	32.00	25.00	32.00	12.00

Saturdays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Rte. 606 (Mod'd)	7:00 am-6:00 pm	11	n/a	60	n/a	22	27	6	10%	60	5.5	9.9	11.0	121.0	1.00	0.00
7 to 7 on 7 Route	7:00 am-6:00 pm	11	n/a	60	n/a	22	58	4	3%	120	21.5	21.3	22.0	473.0	2.00	0.00
Sterling Circulator	7:00 am-6:00 pm	11	n/a	60	n/a	22	30	0	0%	60	7.9	11.0	11.0	173.8	1.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						78						51.2	53.0	845.8	5.00	0.00

Sundays

Route Name	Span of Service	Total Hours	Serv. Freq.			Daily Trips	Base Period				One-Way Distance (Miles)	Average Saturday			Bus Requirements	
			AM	Mid/PM	Eve.		Time (Min.)	Layover Time	% Layover	Cycle Time		In-Serv. Hours	Rev. Hrs.	Rev. Miles	Midday	Eve.
Atlantic Circulator to Route 606 (Mod'd)	9:00 am-6:00 pm	9	n/a	60	n/a	18	27	6	10%	60	5.5	8.1	9.0	99.0	1.00	0.00
7 to 7 on 7 Route	9:00 am-6:00 pm	9	n/a	60	n/a	18	58	4	3%	120	21.5	17.4	18.0	387.0	2.00	0.00
Sterling Circulator	9:00 am-6:00 pm	9	n/a	60	n/a	18	30	0	0%	60	7.9	9.0	9.0	142.2	1.00	0.00
Leesburg Safe-T-Ride	9:00 am-6:00 pm	9	n/a	45	n/a	12	45	0	0%	45	6.5	9.0	9.0	78.0	1.00	0.00
						66						43.5	45.0	706.2	5.00	0.00

APPENDIX D
DETAILED FINANCIAL PLAN TABLES

Loudoun County Transit Development Plan

COMBINED FINANCIAL PLAN

OPERATIONS Service Costs/Funding Category	Actual FY2008	Actual FY2009	Estimated FY2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs										
Commuter, Express, and Tysons	$4,953,643	$6,050,782	$6,677,393	$8,116,800	$9,824,300	$10,450,000	$10,334,600	$10,995,800	$11,325,600	$9,733,400
Local Fixed Route, Demand Response, and Leesburg	$3,835,650	$3,517,760	$4,390,800	$4,830,723	$5,463,500	$6,098,100	$7,728,000	$8,148,200	$8,392,600	$10,617,100
Total Expenses	**$8,789,293**	**$9,568,542**	**$11,068,193**	**$12,947,523**	**$15,287,800**	**$16,548,100**	**$18,062,600**	**$19,144,000**	**$19,718,200**	**$20,350,500**
Net change from Prior Year		*8.9%*	*15.7%*	*17.0%*	*18.1%*	*8.2%*	*9.2%*	*6.0%*	*3.0%*	*3.2%*
Anticipated Non-Gas Tax Funding Sources										
Fare Revenues										
Commuter, Express, and Tysons	$3,732,615	$4,966,833	$4,467,217	$5,517,700	$6,732,000	$7,869,300	$8,173,800	$8,526,600	$8,526,600	$6,531,200
Local Fixed Route, ADA, and Leesburg	$124,509	$130,848	$102,500	$144,400	$162,200	$177,000	$247,200	$257,000	$257,000	$357,300
Total Fare Revenues	**$3,857,124**	**$5,097,681**	**$4,569,717**	**$5,662,100**	**$6,894,200**	**$8,046,300**	**$8,421,000**	**$8,783,600**	**$8,783,600**	**$6,888,500**
Federal Funds (excludes Commuter & Leesburg routes)	$1,593,840	$1,501,168	$2,191,500	$2,416,300	$2,488,800	$2,672,200	$2,752,400	$2,907,100	$2,994,300	$3,327,400
State/TMP Funds	$1,194,176	$1,667,162	$1,631,633	$2,239,500	$2,588,300	$2,687,900	$1,819,300	$1,895,000	$1,968,600	$2,035,700
Other Funds	$779,005	$296,182	$476,500	$476,500	$490,700	$454,400	$468,100	$482,200	$496,700	$511,600
Total Non-Gasoline Tax Funds	**$7,424,145**	**$8,562,193**	**$8,869,350**	**$10,794,400**	**$12,462,000**	**$13,860,800**	**$13,460,800**	**$14,067,900**	**$14,243,200**	**$12,763,200**
Required Gas Tax or Local Other Funds	**$1,365,148**	**$1,006,349**	**$2,198,843**	**$2,153,123**	**$2,825,800**	**$2,687,300**	**$4,601,800**	**$5,076,100**	**$5,475,000**	**$7,587,300**

CAPITAL Capital Costs/Funding Category	Actual FY2008	Actual FY2009	Estimated FY2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
EXPENDITURES										
Commuter, Express, and Tysons	$1,988,254	$4,651,267	$6,559,967	$4,545,960	$14,724,305	$5,002,867	$5,794,659	$3,036,500	$1,790,983	$1,105,108
Local Fixed Route, Demand Response, and Leesburg	$0	$0	$0	$0	$900,000	$309,000	$3,183,000	$0	$0	$1,739,000
Total Expenditures	**$1,988,254**	**$4,651,267**	**$6,559,967**	**$4,545,960**	**$15,624,305**	**$5,311,867**	**$8,977,659**	**$3,036,500**	**$1,790,983**	**$2,844,108**
FUNDING										
Anticipated Non-Gas Tax Funding Sources										
Federal Grants	$100,000	$1,400,000	$0	$0	$1,000,000	$0	$3,000,000	$0	$0	$0
State Capital Assistance	$263,939	$655,176	$3,693,306	$2,192,509	$6,706,500	$2,127,275	$3,298,699	$764,737	$139,766	$1,525,146
Other Funds	$338,216	$232,685	$217,635	$568,175	$6,015,915	$1,219,892	$121,990	$117,454	$112,758	$108,062
Total Non-Gasoline Tax Funds	**$702,155**	**$2,287,861**	**$3,910,941**	**$2,760,684**	**$13,722,415**	**$3,347,167**	**$6,420,689**	**$882,191**	**$252,524**	**$1,633,208**
Required Gas Tax or Local Other Funds	**$1,286,099**	**$2,363,406**	**$2,649,026**	**$1,785,276**	**$1,901,890**	**$1,964,700**	**$2,556,970**	**$2,154,309**	**$1,538,459**	**$1,210,900**

Combined Operating and Capital:										
Required Gas Tax or Local Other Funds	**$2,651,247**	**$3,369,755**	**$4,847,869**	**$3,938,399**	**$4,727,690**	**$4,652,000**	**$7,158,770**	**$7,230,409**	**$7,013,459**	**$8,798,200**

Loudoun County Transit Development Plan

COMMUTER SERVICE FINANCIAL PLAN - OPERATING

Service Costs/Funding Category	Actual FY2008	Actual FY2009	Estimated FY2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs										
Commuter & Express Service (not incl. vehicle replace.)	$4,710,171	$5,804,851	$6,429,235	$7,089,600	$8,515,800	$9,102,300	$9,216,900	$9,844,600	$10,139,900	$9,438,700
Tysons Service	Service started in FY2011			$779,000	$1,054,300	$1,085,900	$848,000	$873,400	$899,600	$0
Administrative Expenses	$243,472	$245,931	$248,158	$248,200	$254,200	$261,800	$269,700	$277,800	$286,100	$294,700
Total Expenses	**$4,953,643**	**$6,050,782**	**$6,677,393**	**$8,116,800**	**$9,824,300**	**$10,450,000**	**$10,334,600**	**$10,995,800**	**$11,325,600**	**$9,733,400**
Net change from Prior Year		*$1,097,139*	*$626,611*	*$1,439,407*	*$1,707,500*	*$625,700*	*($115,400)*	*$661,200*	*$329,800*	*($1,592,200)*
Anticipated Non-Gas Tax Funding Sources										
Fare Revenue										
Commuter Ridership	777,273	890,011	821,780	919,950	991,860	1,056,000	1,106,400	1,156,800	1,156,800	849,600
Commuter Avg. Fare	$4.80	$5.58	$5.44	$5.66	$6.39	$7.00	$7.00	$7.00	$7.00	$7.00
Commuter Fare Revenue	$3,732,615	$4,966,833	$4,467,217	$5,210,100	$6,333,800	$7,392,000	$7,744,800	$8,097,600	$8,097,600	$5,947,200
Express Ridership				138,167	148,967	158,600	136,500	136,500	136,500	292,000
Express Avg. Fare	Express data included with Commuter			$1.47	$1.66	$1.82	$2.00	$2.00	$2.00	$2.00
Express Fare Revenue				$203,200	$247,000	$288,300	$273,000	$273,000	$273,000	$584,000
Tysons Ridership				54,883	59,173	63,000	52,000	52,000	52,000	0
Tysons Avg. Fare	Service started in FY2011			$1.90	$2.56	$3.00	$3.00	$3.00	$3.00	$3.00
Tysons Fare Revenue				$104,400	$151,200	$189,000	$156,000	$156,000	$156,000	$0
Total Fare Revenues	**$3,732,615**	**$4,966,833**	**$4,467,217**	**$5,517,700**	**$6,732,000**	**$7,869,300**	**$8,173,800**	**$8,526,600**	**$8,526,600**	**$6,531,200**
Farebox Recovery Ratio (percentage of fares that cover O&M costs)	*75.4%*	*82.1%*	*66.9%*	*68.0%*	*68.5%*	*75.3%*	*79.1%*	*77.5%*	*75.3%*	*67.1%*
State/TMP Funds										
Dulles Metrorail TMP - Tysons	Service started in FY2011			$674,600	$903,100	$939,500	$0	$0	$0	$0
State Mass Transit Fund - Commuter & Express	$700,000	$1,070,305	$1,040,033	$1,000,000	$1,100,000	$1,139,600	$1,185,500	$1,234,200	$1,286,800	$1,327,700
Total State Funds	**$700,000**	**$1,070,305**	**$1,040,033**	**$1,674,600**	**$2,003,100**	**$2,079,100**	**$1,185,500**	**$1,234,200**	**$1,286,800**	**$1,327,700**
Required Gas Tax or Local Other Funds	**$521,028**	**$13,644**	**$1,170,143**	**$924,500**	**$1,089,200**	**$501,600**	**$975,300**	**$1,235,000**	**$1,512,200**	**$1,874,500**

Inflation Factor 1.03

Notes on Assumptions

- O&M Costs do not include vehicle replacements or lease purchase costs of vehicles. See Capital plan.
- Fare revenue based on ridership and current fare policy. See Appendix D for ridership data.
- Average fare of $9.21 needed for Commuter service in FY2017 to offset estimated loss in gasoline tax funds.

Sources

- National Transit Database (NTD) reports, Loudoun County budgets, and estimates made for the TDP.
- Data reported as combined when source data could not be separated.

Loudoun County Transit Development Plan

LOCAL SERVICE FINANCIAL PLAN - OPERATING (COUNTY AND LEESBURG)

Service Costs/Funding Category	Actual FY2008	Actual FY2009	Actual FY 2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs										
County Fixed-Route Service (Estimated)	Combined in total below		$2,540,000	$2,794,488	$3,252,200	$3,710,500	$4,930,900	$5,223,200	$5,379,900	$7,053,400
County ADA & D.R. Service (Estimated)			$773,800	$851,329	$990,800	$1,130,400	$1,502,200	$1,591,200	$1,638,900	$2,148,700
Total County-Funded Services (Estimated)	$3,835,650	$3,517,760	$3,313,800	$3,645,816	$4,243,000	$4,840,900	$6,433,100	$6,814,400	$7,018,800	$9,202,100
Leesburg Fixed Route Service (Estimated)	Leesburg Fixed Route & ADA included with County		$825,500	$908,208	$935,500	$963,600	$992,500	$1,022,300	$1,053,000	$1,084,600
Leesburg Fixed ADA & D.R. Service (Estimated)			$251,500	$276,698	$285,000	$293,600	$302,400	$311,500	$320,800	$330,400
Total Leesburg-Funded Services (Estimated)			$1,077,000	$1,184,907	$1,220,500	$1,257,200	$1,294,900	$1,333,800	$1,373,800	$1,415,000
Total Expenses	**$3,835,650**	**$3,517,760**	**$4,390,800**	**$4,830,723**	**$5,463,500**	**$6,098,100**	**$7,728,000**	**$8,148,200**	**$8,392,600**	**$10,617,100**
Net change from Prior Year		*($317,890)*	*$873,040*	*$439,923*	*$632,777*	*$634,600*	*$1,629,900*	*$420,200*	*$244,400*	*$2,224,500*
Anticipated Funding Sources										
Fare Revenue										
County Route Ridership	483,816	475,934	486,000	490,000	563,500	624,800	918,000	958,500	958,500	1,380,000
County Route Avg. Fare	$0.26	$0.27	$0.17	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23
County Route Fare Revenue	$124,509	$130,848	$80,200	$113,200	$130,200	$144,300	$212,100	$221,400	$221,400	$318,800
Leesburg Route Ridership			182,000	182,000	182,000	182,000	182,000	182,000	182,000	182,000
Leesburg Route Avg. Fare			$0.10	$0.14	$0.14	$0.14	$0.14	$0.14	$0.14	$0.14
Leesburg Route Fare Revenue	Leesburg & ADA included with County		$18,200	$25,500	$25,500	$25,500	$25,500	$25,500	$25,500	$25,500
ADA/D.R. Route Ridership			20,300	20,300	23,300	25,800	34,400	35,900	35,900	46,500
ADA/D.R. Avg. Fare			$0.20	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28
ADA/D.R. Fare Revenue			$4,100	$5,700	$6,500	$7,200	$9,600	$10,100	$10,100	$13,000
Total Fare Revenues	**$124,509**	**$130,848**	**$102,500**	**$144,400**	**$162,200**	**$177,000**	**$247,200**	**$257,000**	**$257,000**	**$357,300**
Farebox Recovery Ratio (percentage of fares that cover O&M costs)	*3.2%*	*3.7%*	*2.3%*	*3.0%*	*3.0%*	*2.9%*	*3.2%*	*3.2%*	*3.1%*	*3.4%*
Federal Funds										
FTA 5311 Non-Urbanized Area Funds	$1,283,959	$1,501,168	$1,770,000	$1,930,400	$1,988,300	$2,156,700	$2,221,400	$2,360,200	$2,431,000	$2,747,200
Job Access & Reverse Commute (JARC) Funds	$309,881	$0	$421,500	$485,900	$500,500	$515,500	$531,000	$546,900	$563,300	$580,200
Total Federal Funds	**$1,593,840**	**$1,501,168**	**$2,191,500**	**$2,416,300**	**$2,488,800**	**$2,672,200**	**$2,752,400**	**$2,907,100**	**$2,994,300**	**$3,327,400**
State Mass Transit Trust Fund	**$494,176**	**$596,857**	**$591,600**	**$564,900**	**$585,200**	**$608,800**	**$633,800**	**$660,800**	**$681,800**	**$708,000**
Other Funds										
Town of Leesburg			$207,300	$207,300	$213,500	$219,900	$226,500	$233,300	$240,300	$247,500
Towns of Purcellville & Lovettsville	Combined in total below. May include additional unidentified sources.		$18,000	$18,000	$18,500	$19,100	$19,700	$20,300	$20,900	$21,500
JARC Private Matches			$203,000	$203,000	$209,100	$215,400	$221,900	$228,600	$235,500	$242,600
Fairfax County			$24,100	$24,100	$24,800	$0	$0	$0	$0	$0
Air & Space Museum			$24,100	$24,100	$24,800	$0	$0	$0	$0	$0
Total Other Funds	**$779,005**	**$296,182**	**$476,500**	**$476,500**	**$490,700**	**$454,400**	**$468,100**	**$482,200**	**$496,700**	**$511,600**
Loudoun County Gas Tax or Other County Funds	**$844,120**	**$992,705**	**$1,028,700**	**$1,228,623**	**$1,736,600**	**$2,185,700**	**$3,626,500**	**$3,841,100**	**$3,962,800**	**$5,712,800**

Inflation Factor 1.03

Loudoun County Transit Development Plan

LOCAL SERVICE PLAN: LOUDOUN COUNTY SEPARATED EXPENSES AND REVENUE SOURCES (ESTIMATED)

Service Costs//Funding Category	Actual FY2008	Actual FY2009	Actual FY 2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs										
County Fixed-Route Service (Estimated)			$2,540,000	$2,794,488	$3,252,200	$3,710,500	$4,930,900	$5,223,200	$5,379,900	$7,053,400
County ADA & D.R. Service (Estimated)			$773,800	$851,329	$990,800	$1,130,400	$1,502,200	$1,591,200	$1,638,900	$2,148,700
Total County-Funded Services (Estimated)			**$3,313,800**	**$3,645,816**	**$4,243,000**	**$4,840,900**	**$6,433,100**	**$6,814,400**	**$7,018,800**	**$9,202,100**
Net change from Prior Year				*$332,016*	*$597,184*	*$597,900*	*$1,592,200*	*$381,300*	*$204,400*	*$2,183,300*
Anticipated Funding Sources										
Fare Revenue										
County Route Ridership			486,000	490,000	563,500	624,800	918,000	958,500	958,500	1,380,000
County Route Avg. Fare			$0.17	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23	$0.23
Total Fare Revenues			**$80,200**	**$113,200**	**$130,200**	**$144,300**	**$212,100**	**$221,400**	**$221,400**	**$318,800**
County ADA/D.R. Revenues			$3,100	$4,300	$5,100	$5,800	$8,200	$8,700	$8,700	$11,600
Total County-Generated Fare Revenues			**$83,300**	**$117,500**	**$135,300**	**$150,100**	**$220,300**	**$230,100**	**$230,100**	**$330,400**
Federal Funds	Reported as combined in County and Leesburg table. Data not reported separate.									
FTA 5311 Non-Urbanized Area Funds			$1,335,800	$1,456,900	$1,500,600	$1,654,400	$1,704,000	$1,827,300	$1,882,100	$2,181,800
Job Access & Reverse Commute (JARC) Funds			$421,500	$485,900	$500,500	$515,500	$531,000	$546,900	$563,300	$580,200
Total Federal Funds			**$1,757,300**	**$1,942,800**	**$2,001,100**	**$2,169,900**	**$2,235,000**	**$2,374,200**	**$2,445,400**	**$2,762,000**
State Mass Transit Trust Fund			**$446,500**	**$426,300**	**$442,400**	**$461,700**	**$482,300**	**$504,800**	**$521,100**	**$542,500**
Other Funds										
Towns of Purcellville & Lovettsville			$18,000	$18,000	$18,500	$19,100	$19,700	$20,300	$20,900	$21,500
JARC Private Matches			$203,000	$203,000	$209,100	$215,400	$221,900	$228,600	$235,500	$242,600
Fairfax County			$24,100	$24,100	$24,800	$0	$0	$0	$0	$0
Air & Space Museum			$24,100	$24,100	$24,800	$0	$0	$0	$0	$0
Total Other Funds			**$269,200**	**$269,200**	**$277,200**	**$234,500**	**$241,600**	**$248,900**	**$256,400**	**$264,100**
Loudoun County Gas Tax or Other County Funds			**$757,500**	**$890,016**	**$1,387,000**	**$1,824,700**	**$3,253,900**	**$3,456,400**	**$3,565,800**	**$5,303,100**
Percentage of Operating & Maintenance Costs			23%	24%	33%	38%	51%	51%	51%	58%

Notes on Assumptions

- O&M Costs for FY2011 split between Loudoun and Leesburg based on estimated split in hours for Leesburg/non-Leesburg routes.
- ADA/Demand Response hours based on 2010 National Transit Database (NTD) ADA hours, and then proportioned between County/City based on split in Fixed Route hours.
- Total expenses do not include expenses VRT reported for "Other" in 2010 NTD (e.g. Foggy Bottom routes, etc.).
- Ridership based on estimates of riders/hour. Leesburg riders/hour not assumed to grow above current levels. County riders/hour assumed to grow as Metrorail gets extended. ADA/Demand Response ridership assumed to grow proportionately with Fixed Route. See Appendix D for ridership data.
- 5311 funds for 2010 based on NTD, and for 2011 based on Six-Year Improvement Program (SYIP). For future years, 3% increase in prior year funding assumed, plus 50% of new eligible costs.
- Job Access & Reverse Commute (JARC funds) based on NTD for FY2010 and SYIP for FY2011. Assumed growth in funds (and related costs) keeps up with inflation.
- State Mass Transit Fund based on 2010 NTD and 2011 SYIP, and then grown by state fund increase.
- Other funds/town contributions based on March 2, 2011 e-mail from Kathy Finniff for 2010. Assumes FY2010 amounts increase with inflation, except Fairfax & Air & Space funding in 2013 is eliminated when route no longer operates.
- Loudoun County Gas Tax or Other Funds based on need.
- Fare revenue does not assume the elimination of free transfers that was scheduled to occur on 04-01-2011.

Sources

- National Transit Database (NTD) reports, Loudoun County and VRT budgets, and estimates made for the TDP.
- Data reported as combined when source data could not be separated.

Loudoun County Transit Development Plan

LOCAL SERVICE PLAN: LEESBURG SEPARATED EXPENSES AND REVENUE SOURCES (ESTIMATED)

Service Costs//Funding Category	Actual FY2008	Actual FY2009	Actual FY 2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
Projected Operating & Maintenance Costs										
Leesburg Fixed Route Service (Estimated)			$825,500	$908,208	$935,500	$963,600	$992,500	$1,022,300	$1,053,000	$1,084,600
Leesburg Fixed ADA & D.R. Service (Estimated)			$251,500	$276,698	$285,000	$293,600	$302,400	$311,500	$320,800	$330,400
Total Leesburg-Funded Services (Estimated)			**$1,077,000**	**$1,184,907**	**$1,220,500**	**$1,257,200**	**$1,294,900**	**$1,333,800**	**$1,373,800**	**$1,415,000**
Net change from Prior Year				*$107,907*	*$35,593*	*$36,700*	*$37,700*	*$38,900*	*$40,000*	*$41,200*
Anticipated Funding Sources										
Fare Revenue										
Leesburg Route Ridership			182,000	182,000	182,000	182,000	182,000	182,000	182,000	182,000
Leesburg Route Avg. Fare			$0.10	$0.14	$0.14	$0.14	$0.14	$0.14	$0.14	$0.14
Leesburg Route Fare Revenue			**$18,200**	**$25,500**	**$25,500**	**$25,500**	**$25,500**	**$25,500**	**$25,500**	**$25,500**
Leesburg ADA/D.R. Revenues			$1,000	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400	$1,400
Total Leesburg-Generated Fare Revenues	Reported as combined in County and Leesburg table. Data not reported separate.		**$19,200**	**$26,900**	**$26,900**	**$26,900**	**$26,900**	**$26,900**	**$26,900**	**$26,900**
Federal Funds										
FTA 5311 Non-Urbanized Area Funds			$434,200	$473,500	$487,700	$502,300	$517,400	$532,900	$548,900	$565,400
Job Access & Reverse Commute (JARC) Funds			$0	$0	$0	$0	$0	$0	$0	$0
Total Federal Funds			**$434,200**	**$473,500**	**$487,700**	**$502,300**	**$517,400**	**$532,900**	**$548,900**	**$565,400**
State Mass Transit Trust Fund			**$145,100**	**$138,600**	**$142,800**	**$147,100**	**$151,500**	**$156,000**	**$160,700**	**$165,500**
Other Funds										
Town of Leesburg			**$207,300**	**$207,300**	**$213,500**	**$219,900**	**$226,500**	**$233,300**	**$240,300**	**$247,500**
Loudoun County Gas Tax or Other County Funds			**$271,200**	**$338,607**	**$349,600**	**$361,000**	**$372,600**	**$384,700**	**$397,000**	**$409,700**
Percentage of Operating & Maintenance Costs			25%	29%	29%	29%	29%	29%	29%	29%

Notes on Assumptions

- O&M Costs for FY2011 split between Loudoun and Leesburg based on estimated split in hours for Leesburg/non-Leesburg routes.
- ADA/Demand Response hours based on 2010 National Transit Database (NTD) ADA hours, and then proportioned between County/City based on split in Fixed Route hours.
- Total expenses do not include expenses VRT reported for "Other" in 2010 NTD (e.g. Foggy Bottom routes, etc.).
- Ridership based on estimates of riders/hour. Leesburg riders/hour not assumed to grow above current levels. County riders/hour assumed to grow as Metrorail gets extended. ADA/Demand Response ridership assumed to grow proportionately with Fixed Route. See Appendix D for ridership data.
- 5311 funds for 2010 based on NTD, and for 2011 based on Six-Year Improvement Program (SYIP). For future years, 3% increase in prior year funding assumed, plus 50% of new eligible costs.
- Job Access & Reverse Commute (JARC funds) based on NTD for FY2010 and SYIP for FY2011. Assumed growth in funds (and related costs) keeps up with inflation.
- State Mass Transit Fund based on 2010 NTD and 2011 SYIP, and then grown by state fund increase.
- Other funds/town contributions based on March 2, 2011 e-mail from Kathy Finniff for 2010. Assumes FY2010 amounts increase with inflation, except Fairfax & Air & Space funding in 2013 is eliminated when route no longer operates.
- Loudoun County Gas Tax or Other Funds based on need.
- Fare revenue does not assume the elimination of free transfers that was scheduled to occur on 04-01-2011.

Sources

- National Transit Database (NTD) reports, Loudoun County and VRT budgets, and estimates made for the TDP.
- Data reported as combined when source data could not be separated.

Loudoun County Transit Development Plan

COMMUTER SERVICE FINANCIAL PLAN - CAPITAL

Capital Costs/Funding Category	Actual FY2008	Actual FY2009	Estimated FY2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
EXPENDITURES										
Bus Replacement Fund	$1,265,220	$1,341,900	$1,485,675	$1,322,460	$1,428,390	$1,322,460	$1,322,460	$1,538,459	$1,538,459	$863,100
Lease Purchase	$433,610	$433,610	$521,162	$734,956	$725,915	$716,407	$273,199	$263,041	$252,524	$242,008
Bus Expansion and Related Capital	$44,424	$45,757	$4,247,130	$48,544	$1,670,000	$1,164,000	$1,199,000	$1,235,000	$0	$0
Maintenance Facility	$0	$0	$306,000	$2,200,000	$9,900,000	$1,800,000	$0	$0	$0	$0
Park-and-Ride Lots/Transit Centers	$245,000	$2,830,000	$0	$240,000	$1,000,000	$0	$3,000,000	$0	$0	$0
Total Expenditures	**$1,988,254**	**$4,651,267**	**$6,559,967**	**$4,545,960**	**$14,724,305**	**$5,002,867**	**$5,794,659**	**$3,036,500**	**$1,790,983**	**$1,105,108**
Expansion Buses			*7 buses*		*3 buses*	*2 buses*	*2 buses*	*2 buses*		
FUNDING										
Anticipated Non-Gas Tax Funding Sources										
Congestion Mitigation & Air Quality (CMAQ)	$100,000	$1,400,000	$0	$0	$1,000,000	$0	$3,000,000	$0	$0	$0
State Capital Assistance	$263,939	$655,176	$3,693,306	$2,192,509	$5,986,500	$1,880,075	$752,299	$764,737	$139,766	$133,946
Debt service	$338,216	$232,685	$217,635	$328,175	$525,915	$319,892	$121,990	$117,454	$112,758	$108,062
Proffers	$0	$0	$0	$240,000	$540,000	$0	$0	$0	$0	$0
Committed Local Transportation Funds	$0	$0	$0	$0	$4,950,000	$900,000	$0	$0	$0	$0
Total Non-Gas Tax Funds	**$702,155**	**$2,287,861**	**$3,910,941**	**$2,760,684**	**$13,002,415**	**$3,099,967**	**$3,874,289**	**$882,191**	**$252,524**	**$242,008**
Required Gas Tax or Local Other Funds	**$1,286,099**	**$2,363,406**	**$2,649,026**	**$1,785,276**	**$1,721,890**	**$1,902,900**	**$1,920,370**	**$2,154,309**	**$1,538,459**	**$863,100**

Sources

- Loudoun County Capital Improvement Plans (CIPs), budgets, depreciation and debt service schedules, and estimates made for the TDP.

Loudoun County Transit Development Plan

LOCAL SERVICE FINANCIAL PLAN - CAPITAL

Capital Costs/Funding Category	Actual FY2008	Actual FY2009	Estimated FY2010	Budget FY2011	Projected FY2012	Projected FY2013	Projected FY2014	Projected FY2015	Projected FY2016	Projected FY2017
EXPENDITURES										
Bus Expansion	Costs not attributable to Loudoun County. Loudoun County may provide local share of future expansion buses, but ownership has not been determined.				$900,000	$309,000	$3,183,000	$0	$0	$1,739,000
Expansion Buses					*3 buses*	*1 bus*	*10 buses*			*5 buses*
FUNDING										
Anticipated Non-Gas Tax Funding Sources										
State Capital Assistance					$720,000	$247,200	$2,546,400	$0	$0	$1,391,200
Other Funds Required (Local Transportation, Proffers, etc.)					**$180,000**	**$61,800**	**$636,600**	**$0**	**$0**	**$347,800**

Notes on Assumptions

- Expenditures include only bus expansion. Does not include other capital costs not directly related to Loudoun (e.g. maintenance facility, real estate, etc.).
- Ownership of buses has not been determined. It is assumes that Loudoun County or others will fund local share of expansion buses. Federal grants may be available depending on ownership.

Sources

- Department of Rail and Public Transportation (DRPT) Six-Year Improvement Program (SYIP), VRT budgets, and estimates made for the TDP.